One More Chance

[SMA][T2]
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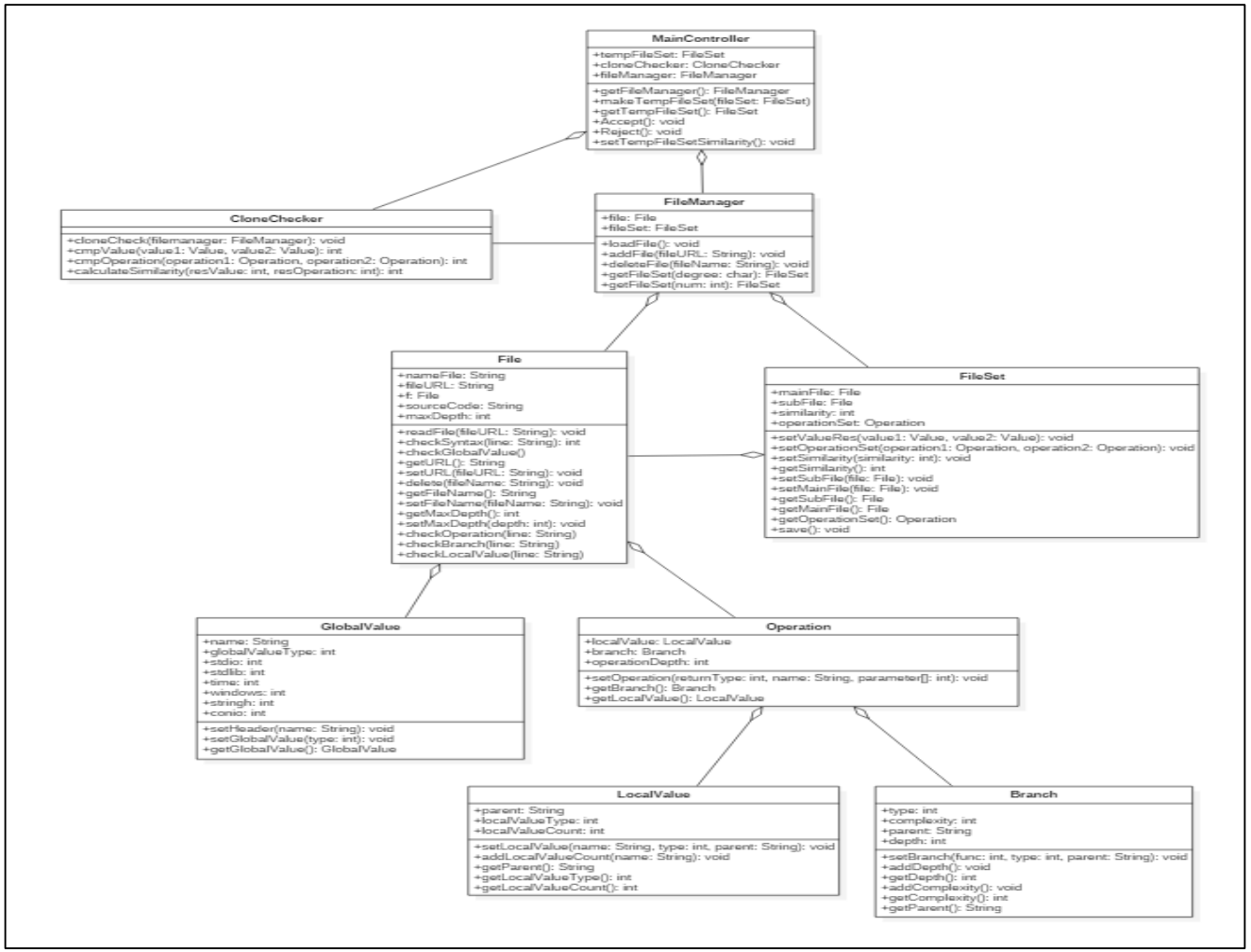
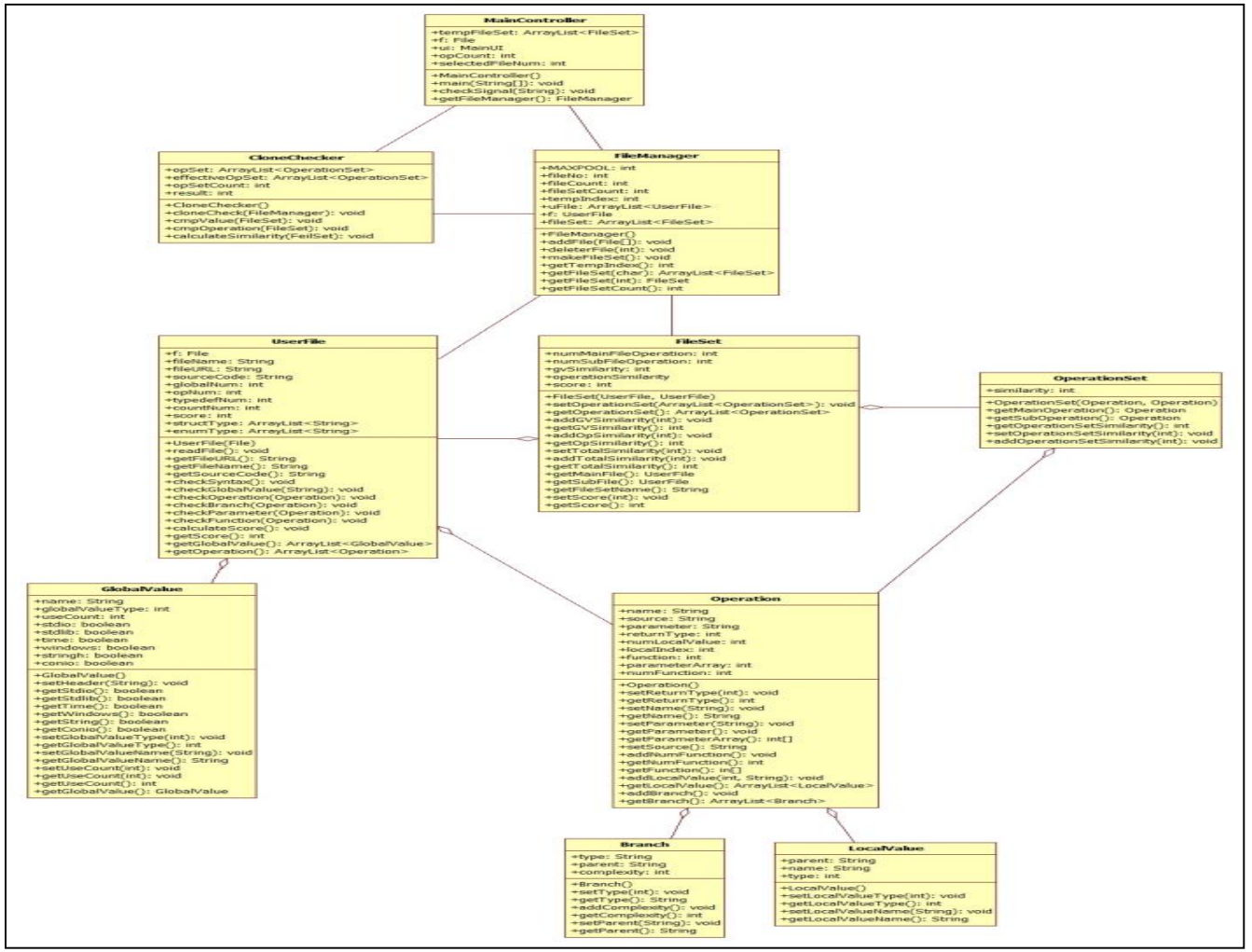
1 Revise Plan

Class Diagram **Ver.1**



1 Revise Plan

Class Diagram **Ver.2**



2 Implement Class Definitions

Load File

Type	Class
Name	MainController
Purpose	GUI를 포함한 메인 클래스로써 ACTOR와의 연결 관계를 가지며 다른 기능들을 지원하기 위한 class
Over View	
Cross Reference	Functions : All Use Cases : All
Exceptional Courses of Events	

2 Implement Class Definitions

Load File

Type	Class
Name	FileManager
Purpose	File과 관련된 모든 Event를 담당하는 class
Over View	
Cross Reference	Functions : All Use Cases : All
Exceptional Courses of Events	

2 Implement Class Definitions

Load File

Type	Class
Name	CloneChecker
Purpose	두 File의 유사도를 계산하는class
Over View	
Cross Reference	Functions : R2, R2.1, R2.2, R2.3, R2.4 Use Cases : Clone Check, Check Global Value, Check Operation, Calculate Similarity
Exceptional Courses of Events	

2 Implement Class Definitions

Load File

Type	Class
Name	UserFile
Purpose	Load된 File의 정보를 저장하는 class
Over View	
Cross Reference	Functions : All Use Cases : All
Exceptional Courses of Events	

2 Implement Class Definitions

Load File

Type	Class
Name	FileSet
Purpose	File Set의 정보를 저장하는 class
Over View	
Cross Reference	Functions : All Use Cases : All
Exceptional Courses of Events	

2 Implement Class Definitions

Load File

Type	Class
Name	GlobalValue
Purpose	File의 전역변수 정보를 저장하는 class
Over View	
Cross Reference	Functions : R1.1, R2, R2.1, R2.3 Use Cases : Load File, Clone Check, Check Global Value, Calculate Similarity
Exceptional Courses of Events	

2 Implement Class Definitions

Load File

Type	Class
Name	Operation
Purpose	File의 함수 정보를 저장하는 class
Over View	
Cross Reference	Functions : R1.1, R2, R2.2, R2.3 Use Cases : Load File, Clone Check, Check Operation, Calculate Similarity
Exceptional Courses of Events	

2 Implement Class Definitions

Load File

Type	Class
Name	OperationSet
Purpose	File의 OperationSet정보를 저장하는 class
Over View	
Cross Reference	Functions : R2, Use Cases : Clone Check
Exceptional Courses of Events	

2 Implement Class Definitions

Load File

Type	Class
Name	LocalValue
Purpose	File의 함수내 지역 변수를 저장하는 class
Over View	
Cross Reference	Functions : R1.1, R2, R2.2, R2.3 Use Cases : Load File, Clone Check, Check Operation, Calculate Similarity
Exceptional Courses of Events	

2 Implement Class Definitions

Load File

Type	Class
Name	Branch
Purpose	File의 함수 내 Complexity를 저장하는 class
Over View	
Cross Reference	Functions : R1.1, R2, R2.2, R2.3 Use Cases : Load File, Clone Check, Check Operation, Calculate Similarity
Exceptional Courses of Events	

2 Implement Method Definitions

CloneChecker's Method

Type	Method
Name	cmpValue in CloneChecker class
Purpose	두 File의 전역변수들간 유사도를 검사한다.
Cross Reference	Functions : R2.1 Use Cases : Check Global Value
Input (Method)	fs:FileSet
Output (Method)	N/A
Abstract operation (Method)	N/A.
Exceptional Courses of Events	

2 Implement Method Definitions

CloneChecker's Method

Type	Method
Name	cmpOperation in CloneChecker class
Purpose	두 File의 함수들간 유사도를 검사한다.
Cross Reference	Functions : R2.2 Use Cases : Check Operation
Input (Method)	fs:FileSet
Output (Method)	N/A
Abstract operation (Method)	N/A.
Exceptional Courses of Events	

2 Implement Method Definitions

CloneChecker's Method

Type	Method
Name	calculateSimilarity in CloneChecker class
Purpose	두 File의 유사도를 계산한다.
Cross Reference	Functions : R2.3 Use Cases : Calculate Similarity
Input (Method)	fs:FileSet
Output (Method)	N/A
Abstract operation (Method)	계산된 유사도를 UI에 표시한다.
Exceptional Courses of Events	

2 Implement Method Definitions

CloneChecker's Method

Type	Method
Name	readFile in UserFIle class
Purpose	Load된 File을 읽어서 File의 내용을 String 값으로 저장한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	N/A
Output (Method)	N/A
Abstract operation (Method)	N/A.
Exceptional Courses of Events	

2 Implement Method Definitions

CloneChecker's Method

Type	Method
Name	getFileURL in UserFIle class
Purpose	Load된 File의 URL을 return한다..
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	N/A
Output (Method)	fileURL:String
Abstract operation (Method)	N/A.
Exceptional Courses of Events	

2 Implement Method Definitions

CloneChecker's Method

Type	Method
Name	getFileName in UserFIle class
Purpose	Load된 File의 이름을 return한다..
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	N/A
Output (Method)	fileName:String
Abstract operation (Method)	N/A.
Exceptional Courses of Events	

2 Implement Method Definitions

CloneChecker's Method

Type	Method
Name	checkSyntax in UserFIle class
Purpose	Load된 File의 Syntax를 분석하면서 전역변수, 함수를 구분하여 저장한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	N/A
Output (Method)	N/A
Abstract operation (Method)	N/A.
Exceptional Courses of Events	

2 Implement Method Definitions

CloneChecker's Method

Type	Method
Name	checkGlobalValue in UserFIle class
Purpose	Syntax 검사 후 분류된 전역변수의 사용회수를 검사한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	nameGlobalValue:String
Output (Method)	N/A
Abstract operation (Method)	N/A.
Exceptional Courses of Events	

2 Implement Method Definitions

CloneChecker's Method

Type	Method
Name	checkOperation in UserFIle class
Purpose	Syntax 검사 후 분류된 함수에서 지역변수를 분류한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	operation:Operation
Output (Method)	N/A
Abstract operation (Method)	N/A.
Exceptional Courses of Events	

2 Implement Method Definitions

CloneChecker's Method

Type	Method
Name	checkBranch in UserFIle class
Purpose	Syntax 검사 후 분류된 함수에서 Complexity를 검사한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	operation:Operation
Output (Method)	N/A
Abstract operation (Method)	N/A.
Exceptional Courses of Events	

2 Implement Method Definitions

CloneChecker's Method

Type	Method
Name	checkParameter in UserFIle class
Purpose	Syntax 검사 후 분류된 함수의 parameter의 type 개수를 분류한다..
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	operation:Operation
Output (Method)	N/A
Abstract operation (Method)	N/A.
Exceptional Courses of Events	

2 Implement Method Definitions

CloneChecker's Method

Type	Method
Name	checkFunction in UserFIle class
Purpose	Syntax 검사 후 분류된 함수의 function 선언 개수를 센다. (scanf, strstr, strcpy, strtok, strcmp, strcat)
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	operation:Operation
Output (Method)	N/A
Abstract operation (Method)	N/A.
Exceptional Courses of Events	

2 Implement Method Definitions

CloneChecker's Method

Type	Method
Name	calculateScore in UserFIle class
Purpose	전역변수 개수, 헤더 개수, operation 개수, 지역 변수 개수, complexity의 합, fuction 선언 수를 더하여 score를 계산한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	N/A
Output (Method)	N/A
Abstract operation (Method)	N/A.
Exceptional Courses of Events	

2 Implement Method Definitions

FileManager's Method

Type	Method
Name	addFile in FileManager class
Purpose	Clone check할 File을 추가한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	file:File[]
Output (Method)	N/A
Abstract operation (Method)	GUI File List에 List를 추가하여 표시한다.
Exceptional Courses of Events	선택한 File이 txt, c, cpp File이 아닌 경우 에러 메시지를 출력한다.

2 Implement Method Definitions

FileManager's Method

Type	Method
Name	deleteFile in FileManager class
Purpose	Load된 File을 삭제한다.
Cross Reference	Functions : R1.2 Use Cases : Delete File
Input (Method)	index:int
Output (Method)	N/A
Abstract operation (Method)	GUI File List에 List를 삭제하여 표시한다.
Exceptional Courses of Events	

2 Implement Method Definitions

FileManager's Method

Type	Method
Name	makeFileSet in FileManager class
Purpose	Load된 File들을 Clone Check하기 위해 File Set을 만든다.
Cross Reference	Functions : R2 Use Cases : Clone Check
Input (Method)	N/A
Output (Method)	N/A
Abstract operation (Method)	GUI File Set List에 File Set List를 표시한다.
Exceptional Courses of Events	

2 Implement Method Definitions

FileManager's Method

Type	Method
Name	getTempIndex in FileManager class
Purpose	유사도별 List를 나누기 위한 변수를 return한다.
Cross Reference	Functions : R2.4, R3.1, R3.2, R3.3, R3.4, R3.5 Use Cases : Display File Set List, Show All, Show Red, Show Orange, Show Yellow, Show Green
Input (Method)	N/A
Output (Method)	tempIndex:int
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

FileManager's Method

Type	Method
Name	getFileSet in FileManager class
Purpose	유사도별로 나눈 File Set을 return한다.
Cross Reference	Functions : R2.4, R3.1, R3.2, R3.3, R3.4, R3.5 Use Cases : Display File Set List, Show All, Show Red, Show Orange, Show Yellow, Show Green
Input (Method)	degree:char
Output (Method)	tempFileSet or fileSet:ArrayList<FileSet>
Abstract operation (Method)	선택한 유사도에 따른 File Set을 표시한다.
Exceptional Courses of Events	

2 Implement Method Definitions

FileManager's Method

Type	Method
Name	getFileSet in FileManager class
Purpose	선택한 File Set을 return한다.
Cross Reference	Functions : R4, R4.1, R4.2, R4.3, R4.5 Use Cases : Display File Set, Display Main File, Display Sub File, Display Doubted Main File Operation, Display Doubted Sub File Operation
Input (Method)	num:int
Output (Method)	fileSet.get(num):FileSet
Abstract operation (Method)	선택한 File Set의 Main File과 Sub File의 정보를 표시한다.
Exceptional Courses of Events	

2 Implement Method Definitions

FileManager's Method

Type	Method
Name	getFileManager in FileManager class
Purpose	FileManager를 return한다.
Cross Reference	Functions : All Use Cases : All
Input (Method)	N/A
Output (Method)	this:FileManager
Abstract operation (Method)	N/A.
Exceptional Courses of Events	

2 Implement Method Definitions

FileManager's Method

Type	Method
Name	getFileSetCount in FileManager class
Purpose	FileSet의 개수를 return한다.
Cross Reference	Functions : R2.4 Use Cases : Display File Set List
Input (Method)	N/A
Output (Method)	fileSetCount:int
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

MainController's Method

Type	Method
Name	checkSignal in MainController class
Purpose	모든 GUI Event에 관한 Control을 담당
Cross Reference	Functions : All Use Cases : All
Input (Method)	signal:String
Output (Method)	N/A
Abstract operation (Method)	들어온 signal을 분류하여 해당 기능을 실행하는 method를 호출한다.
Exceptional Courses of Events	

2 Implement Method Definitions

MainController's Method

Type	Method
Name	getFileManager in MainController class
Purpose	FileManager 객체를 return한다.
Cross Reference	Functions : All Use Cases : All
Input (Method)	N/A
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

Branch's Method

Type	Method
Name	setType in Branch
Purpose	Branch문의 type을 설정한다. (if, else if, else, for, while, do, case)
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	num:int
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

Branch's Method

Type	Method
Name	getType in Branch
Purpose	Branch문의 type을 return한다.
Cross Reference	Functions : R2, R2.2, R2.3 Use Cases : Clone Check, Check Operation, Calculate Similarity
Input (Method)	N/A
Output (Method)	type:String
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

Branch's Method

Type	Method
Name	addComplexity in Branch
Purpose	Branch문의 Complexity를 증가시킨다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	N/A
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

Branch's Method

Type	Method
Name	getComplexity in Branch
Purpose	함수의 Complexity를 return한다.
Cross Reference	Functions : R2, R2.2, R2.3 Use Cases : Clone Check, Check Operation, Calculate Similarity
Input (Method)	N/A
Output (Method)	complexity:int
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

FileSet's Method

Type	Method
Name	setOperationSet in FIleSet class
Purpose	FileSet의 operationSet을 설정한다.
Cross Reference	Functions : R2, R2.2 Use Cases : Clone Check, Check Operation
Input (Method)	operationSet: ArrayList<OperationSet>
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

FileSet's Method

Type	Method
Name	getOperationSet in FIleSet class
Purpose	FileSet의 operationSet을 return한다.
Cross Reference	Functions : R2, R2.2 Use Cases : Clone Check, Check Operation
Input (Method)	N/A
Output (Method)	operationSet: ArrayList<OperationSet>
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

FileSet's Method

Type	Method
Name	addGVSimilarity in FIleSet class
Purpose	FileSet의 전역 변수 유사도를 증가시킨다.
Cross Reference	Functions : R2, R2.1 Use Cases : Clone Check, Check Global Value
Input (Method)	similarity:int
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

FileSet's Method

Type	Method
Name	getGVSimilarity in FIleSet class
Purpose	FileSet의 전역 변수 유사도를 return한다.
Cross Reference	Functions : R2, R2.1 Use Cases : Clone Check, Check Global Value
Input (Method)	N/A
Output (Method)	gvSimilarity:int
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

FileSet's Method

Type	Method
Name	addOpSimilarity in FIleSet class
Purpose	FileSet의 함수 유사도를 증가시킨다.
Cross Reference	Functions : R2, R2.2, R2.3 Use Cases : Clone Check, Check Operation, Calculate Similarity
Input (Method)	similarity:int
Output (Method)	N/A
Abstract operation (Method)	N/A.
Exceptional Courses of Events	

2 Implement Method Definitions

FileSet's Method

Type	Method
Name	getOpSimilarity in FIleSet class
Purpose	FileSet의 함수 유사도를 return한다.
Cross Reference	Functions : R2, R2.2, R2.3 Use Cases : Clone Check, Check Operation, Calculate Similarity
Input (Method)	N/A
Output (Method)	operationSimilarity:int
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

FileSet's Method

Type	Method
Name	setTotalSimilarity in FIleSet class
Purpose	FileSet의 최종 유사도를 설정한다.
Cross Reference	Functions : R2, R2.4 Use Cases : Clone Check, Calculate Similarity
Input (Method)	similarity:int
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

FileSet's Method

Type	Method
Name	addTotlaSimilarity in FIleSet class
Purpose	FileSet의 최종 유사도를 증가시킨다.
Cross Reference	Functions : R2, R2.4 Use Cases : Clone Check, Calculate Similarity
Input (Method)	N/A
Output (Method)	similarity:int
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

FileSet's Method

Type	Method
Name	getTotalSimilarity in FIleSet class
Purpose	FileSet의 최종 유사도를 return한다.
Cross Reference	Functions : R2, R2.4 Use Cases : Clone Check, Calculate Similarity
Input (Method)	N/A
Output (Method)	totalSimilarity:int
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

FileSet's Method

Type	Method
Name	getMainFile in FIleSet class
Purpose	FileSet의 Main File을 return한다.
Cross Reference	Functions : R2.4, R4, R4.1, R4.3 Use Cases : Display File Set List, Select File Set, Display Main File, Display Doubted Main File Operation
Input (Method)	N/A
Output (Method)	mainFile:UserFile
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

FileSet's Method

Type	Method
Name	getSubFile in FIleSet class
Purpose	FileSet의 Sub File을 return한다.
Cross Reference	Functions : R2.4, R4, R4.2, R4.4 Use Cases : Display File Set List, Select File Set, Display Sub File, Display Doubted Sub File Operation
Input (Method)	N/A
Output (Method)	subFile:UserFile
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

FileSet's Method

Type	Method
Name	getFileSetName in FIleSet class
Purpose	FileSet의 이름을 return한다. (Main File Name, Sub File Name)
Cross Reference	Functions : R2.4, R4, R4.1, R4.2 Use Cases : Display File Set List, Select File Set, Display Main File, Display Sub File
Input (Method)	N/A
Output (Method)	filesetName:String
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

FileSet's Method

Type	Method
Name	setScore in FIleSet class
Purpose	File Set의 점수를 설정한다.
Cross Reference	Functions : R2.3 Use Cases : Calculate Similarity
Input (Method)	score:int
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

FileSet's Method

Type	Method
Name	getScore in FIleSet class
Purpose	File Set의 점수를 return한다.
Cross Reference	Functions : R2.3 Use Cases : Calculate Similarity
Input (Method)	N/A
Output (Method)	score:int
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

GlobalValue's Method

Type	Method
Name	setHeader in GlobalValue class
Purpose	File의 Header를 설정한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	name:String
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

GlobalValue's Method

Type	Method
Name	getStdio in GlobalValue class
Purpose	File header에 stdio.h가 있는지 return한다.
Cross Reference	Functions : R2, R2.1, R2.3 Use Cases : Clone Check, Check Global Value, Calculate Similarity
Input (Method)	N/A
Output (Method)	stdio:boolean
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

GlobalValue's Method

Type	Method
Name	getStdlib in GlobalValue class
Purpose	File header에 stdlib.h가 있는지 return한다.
Cross Reference	Functions : R2, R2.1, R2.3 Use Cases : Clone Check, Check Global Value, Calculate Similarity
Input (Method)	N/A
Output (Method)	stdlib:boolean
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

GlobalValue's Method

Type	Method
Name	getTime in GlobalValue class
Purpose	File header에 time.h가 있는지 return한다.
Cross Reference	Functions : R2, R2.1, R2.3 Use Cases : Clone Check, Check Global Value, Calculate Similarity
Input (Method)	N/A
Output (Method)	time:boolean
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

GlobalValue's Method

Type	Method
Name	getWindows in GlobalValue class
Purpose	File header에 windows.h가 있는지 return한다.
Cross Reference	Functions : R2, R2.1, R2.3 Use Cases : Clone Check, Check Global Value, Calculate Similarity
Input (Method)	N/A
Output (Method)	windows:boolean
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

GlobalValue's Method

Type	Method
Name	getString in GlobalValue class
Purpose	File header에 string.h가 있는지 return한다.
Cross Reference	Functions : R2, R2.1, R2.3 Use Cases : Clone Check, Check Global Value, Calculate Similarity
Input (Method)	N/A
Output (Method)	stringh:boolean
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

GlobalValue's Method

Type	Method
Name	getConio in GlobalValue class
Purpose	File header에 conio.h가 있는지 return한다.
Cross Reference	Functions : R2, R2.1, R2.3 Use Cases : Clone Check, Check Global Value, Calculate Similarity
Input (Method)	N/A
Output (Method)	conion:boolean
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

GlobalValue's Method

Type	Method
Name	setGlobalValueType in GlobalValue class
Purpose	전역 변수의 type을 설정한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	type:int
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

GlobalValue's Method

Type	Method
Name	getGlobalValueType in GlobalValue class
Purpose	전역 변수의 type을 return한다.
Cross Reference	Functions : R2, R2.1, R2.3 Use Cases : Clone Check, Check Global Value, Calculate Similarity
Input (Method)	N/A
Output (Method)	globalValueType:int
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

GlobalValue's Method

Type	Method
Name	setGlobalValueName in GlobalValue class
Purpose	전역 변수의 이름을 설정한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	name:String
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

GlobalValue's Method

Type	Method
Name	getGlobalValueName in GlobalValue class
Purpose	전역 변수의 이름을 return한다.
Cross Reference	Functions : R2, R2.1, R2.3 Use Cases : Clone Check, Check Global Value, Calculate Similarity
Input (Method)	N/A
Output (Method)	name:String
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

GlobalValue's Method

Type	Method
Name	setUseCount in GlobalValue class
Purpose	전역 변수의 사용 회수를 설정한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	count:int
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

GlobalValue's Method

Type	Method
Name	getUseCount in GlobalValue class
Purpose	전역 변수의 사용 회수를 return한다.
Cross Reference	Functions : R2, R2.1, R2.3 Use Cases : Clone Check, Check Global Value, Calculate Similarity
Input (Method)	N/A
Output (Method)	count:int
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

GlobalValue's Method

Type	Method
Name	getGlobalValue in GlobalValue class
Purpose	GlobalValue를 return한다.
Cross Reference	Functions : R2, R2.1, R2.3 Use Cases : Clone Check, Check Global Value, Calculate Similarity
Input (Method)	N/A
Output (Method)	this:GlobalValue
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

LocalValue's Method

Type	Method
Name	setLocalValueType in LocalValue
Purpose	전역 변수의 type을 설정한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	type:int
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

LocalValue's Method

Type	Method
Name	getLocalValueType in LocalValue
Purpose	전역 변수의 type을 return한다.
Cross Reference	Functions : R2, R2.2, R2.3 Use Cases : Clone Check, Check Operation, Calculate Similarity
Input (Method)	N/A
Output (Method)	type:int
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

LocalValue's Method

Type	Method
Name	setLocalValueName in LocalValue
Purpose	전역 변수의 이름을 설정한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	name:String
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

LocalValue's Method

Type	Method
Name	getLocalValueName in LocalValue
Purpose	전역 변수의 이름을 return한다.
Cross Reference	Functions : R2, R2.2, R2.3 Use Cases : Clone Check, Check Operation, Calculate Similarity
Input (Method)	N/A
Output (Method)	name:String
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

Operation's Method

Type	Method
Name	setReturnType in Operation class
Purpose	함수의 Return Type을 설정한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	returnType:int
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

Operation's Method

Type	Method
Name	getReturnType in Operation class
Purpose	함수의 Return Type을 return한다.
Cross Reference	Functions : R2, R2.2, R2.3 Use Cases : Clone Check, Check Operation, Calculate Similarity
Input (Method)	N/A
Output (Method)	returnType:int
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

Operation's Method

Type	Method
Name	setName in Operation class
Purpose	함수의 이름을 설정한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	name:String
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

Operation's Method

Type	Method
Name	getName in Operation class
Purpose	함수의 이름을 return한다.
Cross Reference	Functions : R2, R2.2, R2.3 Use Cases : Clone Check, Check Operation, Calculate Similarity
Input (Method)	N/A
Output (Method)	name:String
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

Operation's Method

Type	Method
Name	setParameter in Operation class
Purpose	함수의 Parameter를 설정한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	parameter:String
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

Operation's Method

Type	Method
Name	getParameter in Operation class
Purpose	함수의 Parameter를 return한다.
Cross Reference	Functions : R2, R2.2, R2.3 Use Cases : Clone Check, Check Operation, Calculate Similarity
Input (Method)	N/A
Output (Method)	parameter:String
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

Operation's Method

Type	Method
Name	getParameterArray in Operation class
Purpose	함수의 ParameterArray를 return한다.
Cross Reference	Functions : R2, R2.2, R2.3 Use Cases : Clone Check, Check Operation, Calculate Similarity
Input (Method)	N/A
Output (Method)	parameterArray:int[]
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

Operation's Method

Type	Method
Name	setSource in Operation class
Purpose	함수의 source를 설정한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	source:String
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

Operation's Method

Type	Method
Name	getSource in Operation class
Purpose	함수의 source를 return한다.
Cross Reference	Functions : R2, R2.2, R2.3 Use Cases : Clone Check, Check Operation, Calculate Similarity
Input (Method)	N/A
Output (Method)	source:String
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

Operation's Method

Type	Method
Name	addNumFunction in Operation class
Purpose	함수의 function 개수를 증가시킨다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	N/A
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

Operation's Method

Type	Method
Name	getNumFunction in Operation class
Purpose	함수의 function 개수를 return한다.
Cross Reference	Functions : R2, R2.2, R2.3 Use Cases : Clone Check, Check Operation, Calculate Similarity
Input (Method)	N/A
Output (Method)	numFunction:int
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

Operation's Method

Type	Method
Name	getFunction in Operation class
Purpose	함수의 function 배열을 return한다.
Cross Reference	Functions : R2, R2.2, R2.3 Use Cases : Clone Check, Check Operation, Calculate Similarity
Input (Method)	N/A
Output (Method)	function:int[]
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

Operation's Method

Type	Method
Name	addLocalValue in Operation class
Purpose	함수의 전역 변수를 추가한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	type:int, localValueName:String
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

Operation's Method

Type	Method
Name	getLocalValue in Operation class
Purpose	함수의 전역 변수를 return한다.
Cross Reference	Functions : R2, R2.2, R2.3 Use Cases : Clone Check, Check Operation, Calculate Similarity
Input (Method)	N/A
Output (Method)	localValue:ArrayList<LocalValue>
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

Operation's Method

Type	Method
Name	addBranch in Operation class
Purpose	함수의 complexity를 추가한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	N/A
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

Operation's Method

Type	Method
Name	getBranch in Operation class
Purpose	함수의 전역 변수를 return한다.
Cross Reference	Functions : R2, R2.2, R2.3 Use Cases : Clone Check, Check Operation, Calculate Similarity
Input (Method)	N/A
Output (Method)	branch:ArrayList<Branch>
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

UserFile's Method

Type	Method
Name	readFile in UserFIle class
Purpose	Load된 File을 읽어서 File의 내용을 String 값으로 저장한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	N/A
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

UserFile's Method

Type	Method
Name	getFileURL in UserFIle class
Purpose	Load된 File의 URL을 return한다..
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	N/A
Output (Method)	fileURL:String
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

UserFile's Method

Type	Method
Name	getFileName in UserFIle class
Purpose	Load된 File의 이름을 return한다..
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	N/A
Output (Method)	fileName:String
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

UserFile's Method

Type	Method
Name	checkSyntax in UserFIle class
Purpose	Load된 File의 Syntax를 분석하면서 전역변수, 함수를 구분하여 저장한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	N/A
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

UserFile's Method

Type	Method
Name	checkGlobalValue in UserFIle class
Purpose	Syntax 검사 후 분류된 전역변수의 사용회수를 검사한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	nameGlobalValue:String
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

UserFile's Method

Type	Method
Name	checkOperation in UserFIle class
Purpose	Syntax 검사 후 분류된 함수에서 지역변수를 분류한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	operation:Operation
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

UserFile's Method

Type	Method
Name	checkBranch in UserFIle class
Purpose	Syntax 검사 후 분류된 함수에서 Complexity를 검사한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	operation:Operation
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

UserFile's Method

Type	Method
Name	checkParameter in UserFIle class
Purpose	Syntax 검사 후 분류된 함수의 parameter의 type 개수를 분류한다..
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	operation:Operation
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

UserFile's Method

Type	Method
Name	checkFunction in UserFIle class
Purpose	Syntax 검사 후 분류된 함수의 function 선언 개수를 센다. (scanf, strstr, strcpy, strtok, strcmp, strcat)
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	operation:Operation
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

UserFile's Method

Type	Method
Name	calculateScore in UserFIle class
Purpose	전역변수 개수, 헤더 개수, operation 개수, 지역 변수 개수, complexity의 합, fuction 선언 수를 더하여 score를 계산한다.
Cross Reference	Functions : R1.1 Use Cases : Load File
Input (Method)	N/A
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

OperationSet's Method

Type	Method
Name	getMainOperation in OperationSet
Purpose	Main File의 Operation을 return한다.
Cross Reference	Functions : R2 Use Cases : Clone Check
Input (Method)	N/A
Output (Method)	mainOperation:Operation
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

OperationSet's Method

Type	Method
Name	getSubOperation in OperationSet
Purpose	Sub File의 Operation을 return한다.
Cross Reference	Functions : R2 Use Cases : Clone Check,
Input (Method)	N/A
Output (Method)	subOperation:Operation
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

OperationSet's Method

Type	Method
Name	getOperationSetSimilarity in OperationSet
Purpose	OperationSet의 유사도를 return한다.
Cross Reference	Functions : R2 Use Cases : Clone Check
Input (Method)	N/A
Output (Method)	similarity:int
Abstract operation (Method)	N/A
Exceptional Courses of Events	

2 Implement Method Definitions

OperationSet's Method

Type	Method
Name	setOperationSetSimilarity in OperationSet
Purpose	OperationSet의 유사도를 설정한다.
Cross Reference	Functions : R2 Use Cases : Clone Check
Input (Method)	similarity:int
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

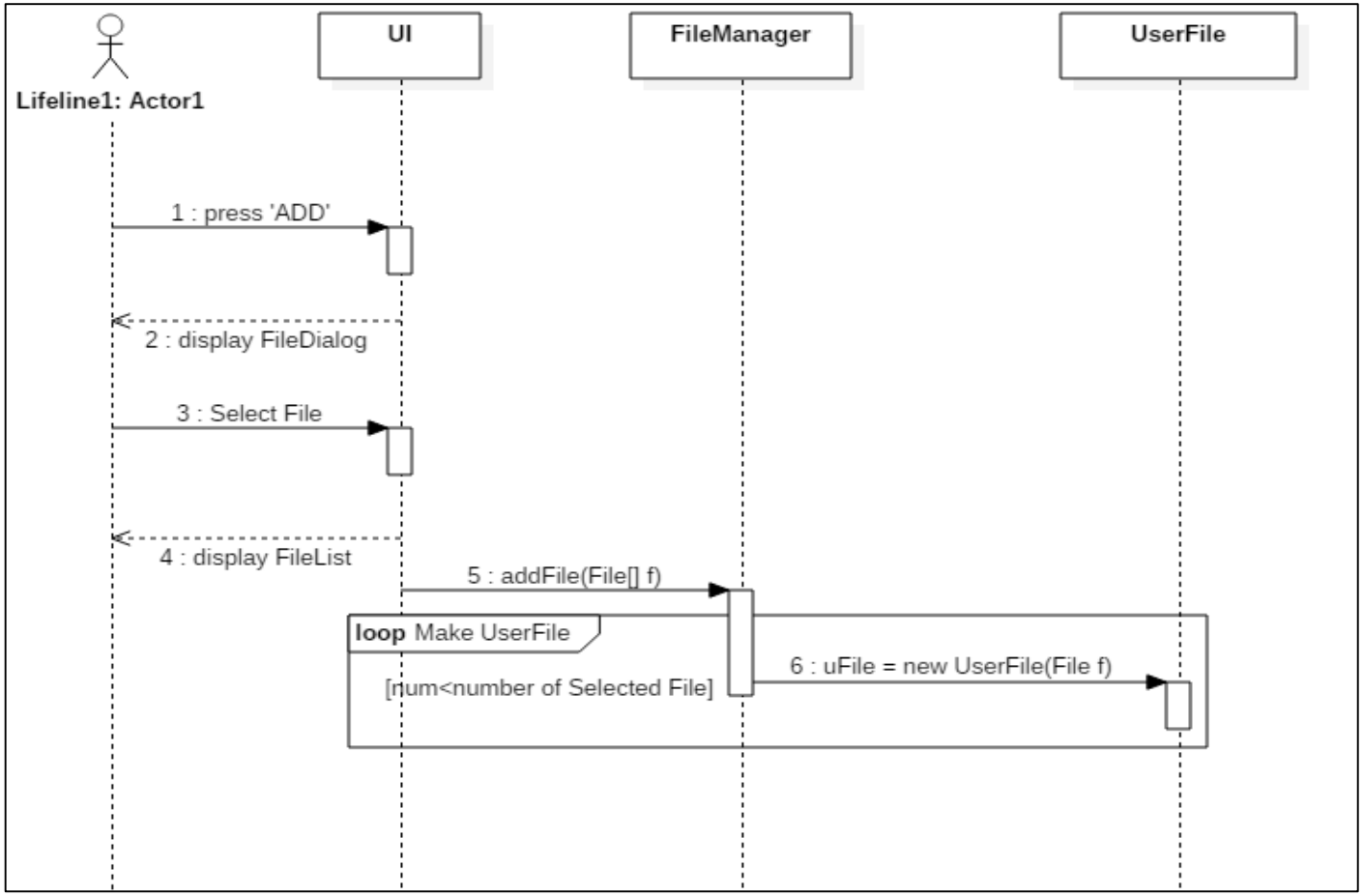
2 Implement Method Definitions

OperationSet's Method

Type	Method
Name	addOperationSetSimilarity in OperationSet
Purpose	OperationSet의 유사도를 증가시킨다.
Cross Reference	Functions : R2 Use Cases : Clone Check
Input (Method)	similarity:int
Output (Method)	N/A
Abstract operation (Method)	N/A
Exceptional Courses of Events	

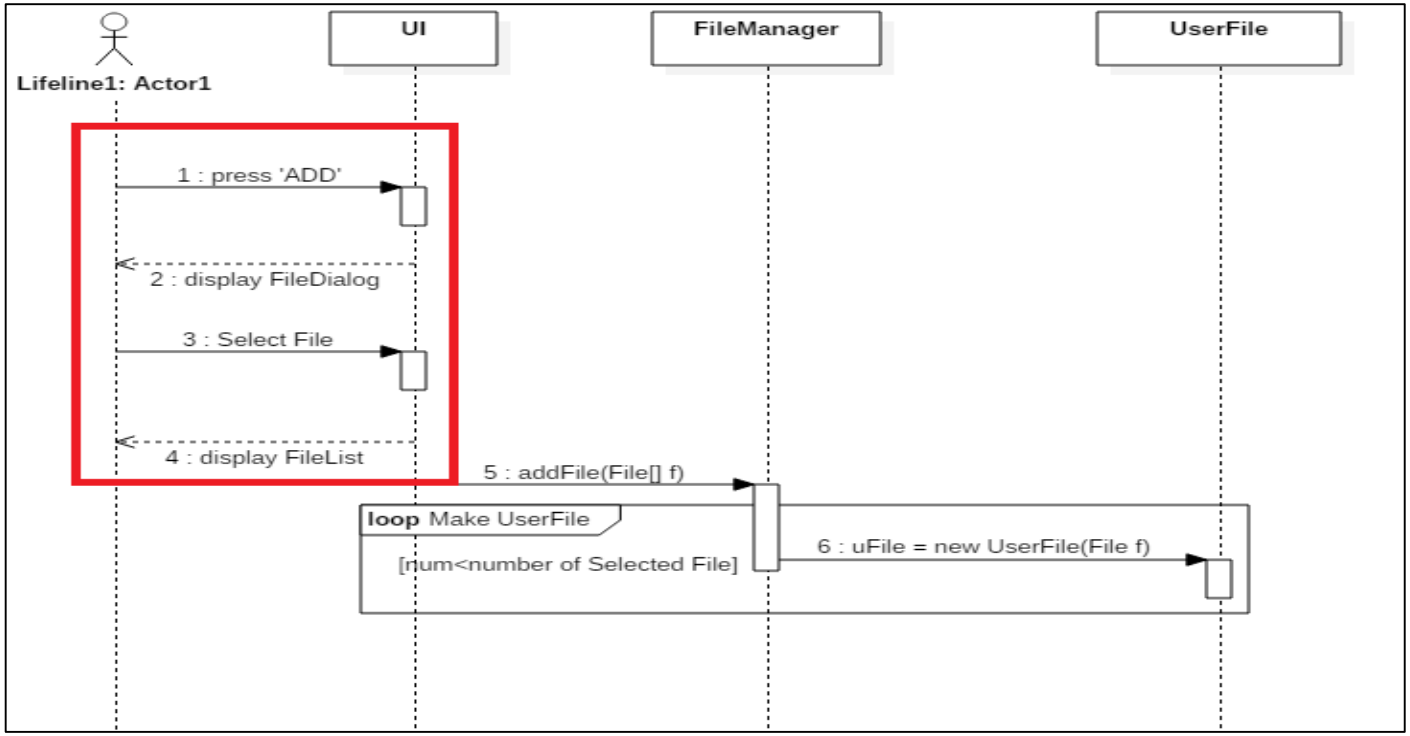
3 Implements Windows

ADD



3 Implements Windows

ADD



Press 'ADD'	GUI만 존재	ADD버튼 누름
Select File		File 선택창 연결
Display FileList	Print File List	displayFileList 와 연결

3 Implements Windows

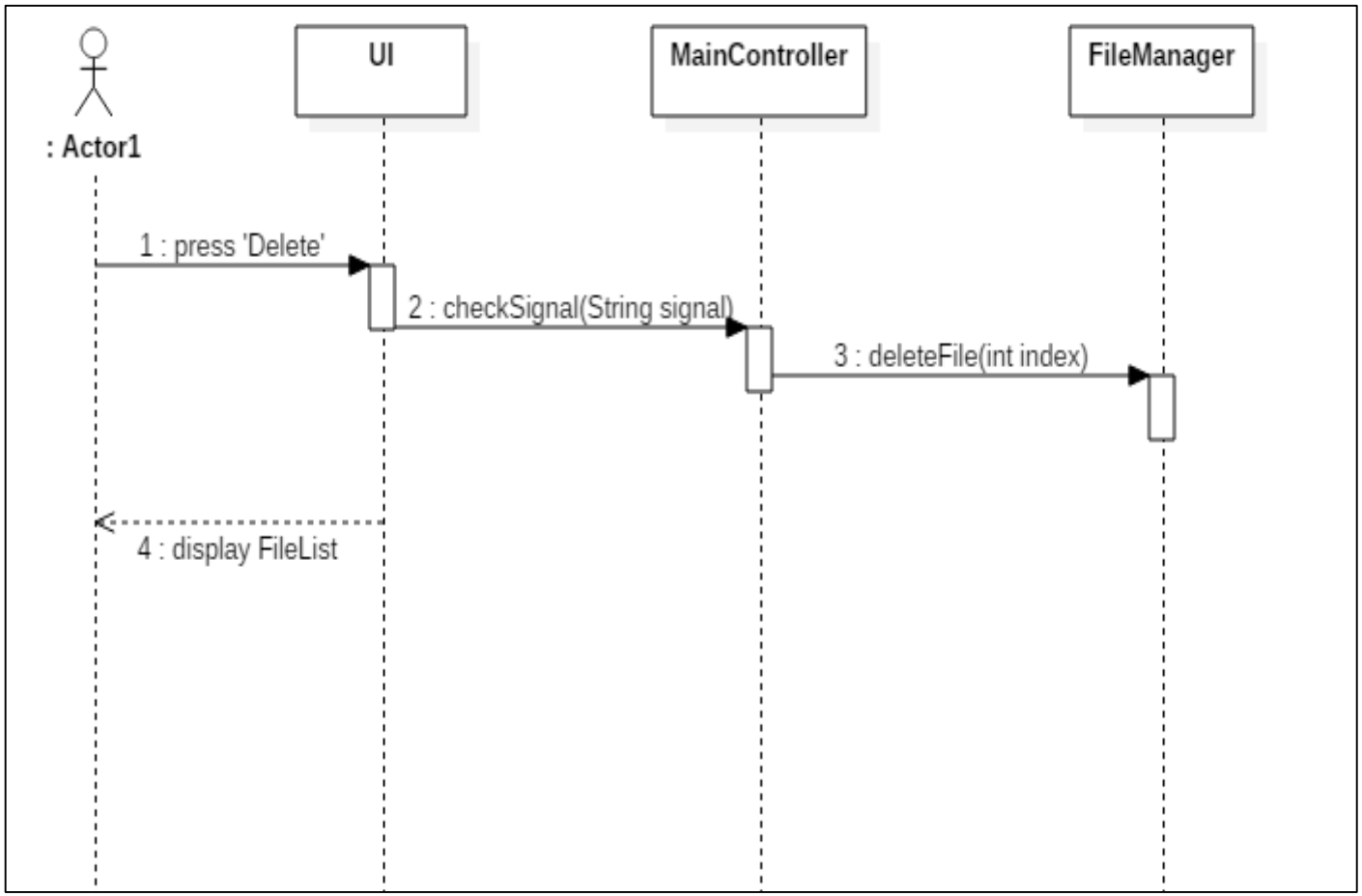
ADD

Name	Press 'ADD'
Responsibilities	GUI에 ADD 버튼을 누른다.
Type	GUI
Cross Reference	R1.1
Notes	GUI에 ADD 버튼을 누른다.
Pre-Conditions	N/A
Post-Conditions	File 선택 창을 화면에 보여준다.

Name	Select File
Responsibilities	ADD할 File을 Click하고 열기 버튼을 누른다.
Type	GUI
Cross Reference	R1.1
Notes	File을 선택하고 열기 버튼을 눌러 목록을 GUI에 띄운다.
Pre-Conditions	ADD할 File이 존재해야 한다.
Post-Conditions	ADD된 File의 List를 보여준다.

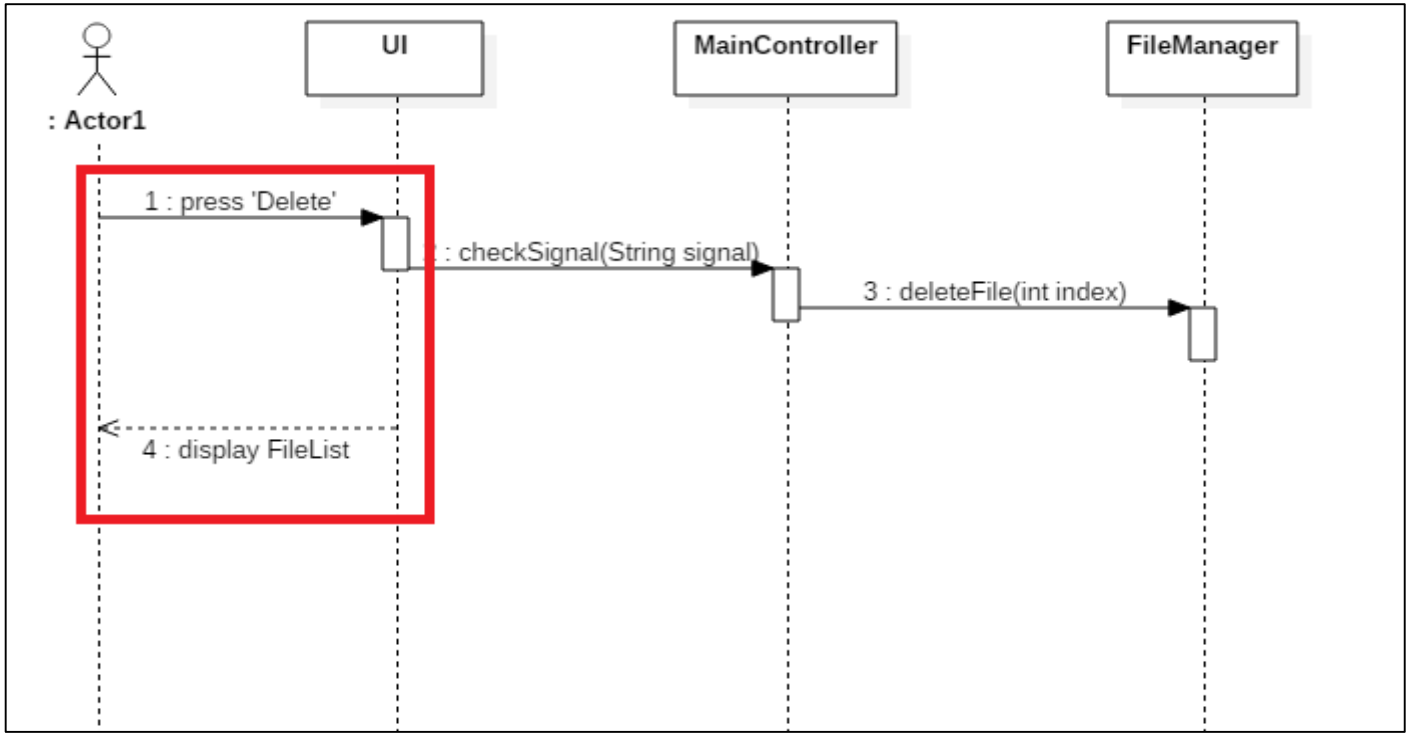
3 Implements Windows

Delete



3 Implements Windows

Delete



Press 'Delete'	GUI만 존재	Delete 버튼 누름
Display FileList	Print File List	displayFileList 와 연결

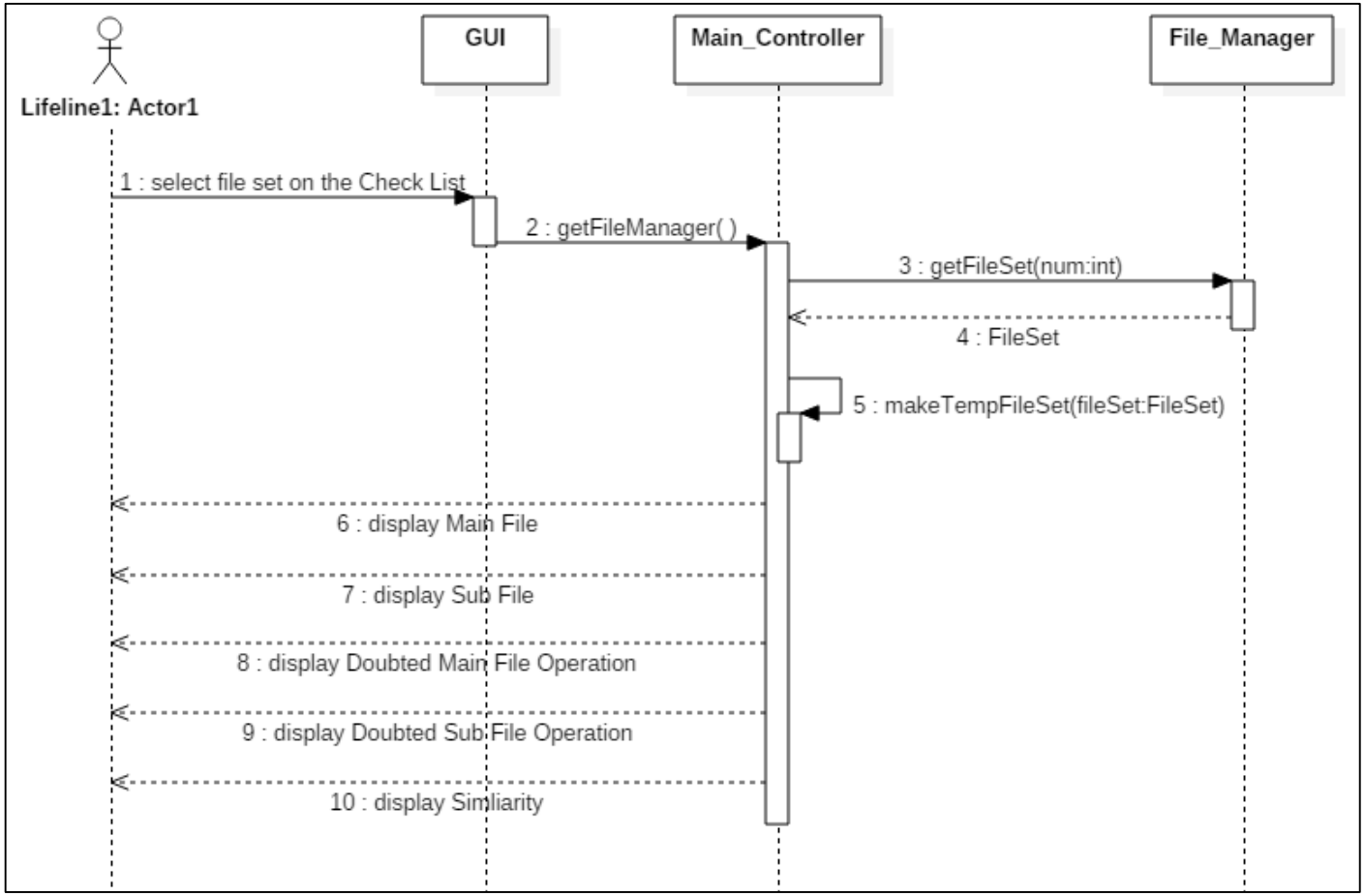
2 Implements Windows

Delete

Name	Press ‘Delete’
Responsibilities	GUI에 Delete 버튼을 누른다.
Type	GUI
Cross Reference	R1.2
Notes	Delete 버튼을 눌러 File List의 선택된 List를 삭제한다.
Pre-Conditions	File List에 추가된 File이 있어야 한다.
Post-Conditions	선택된 File만 삭제되고, 나머지 File은 List에 존재한다.

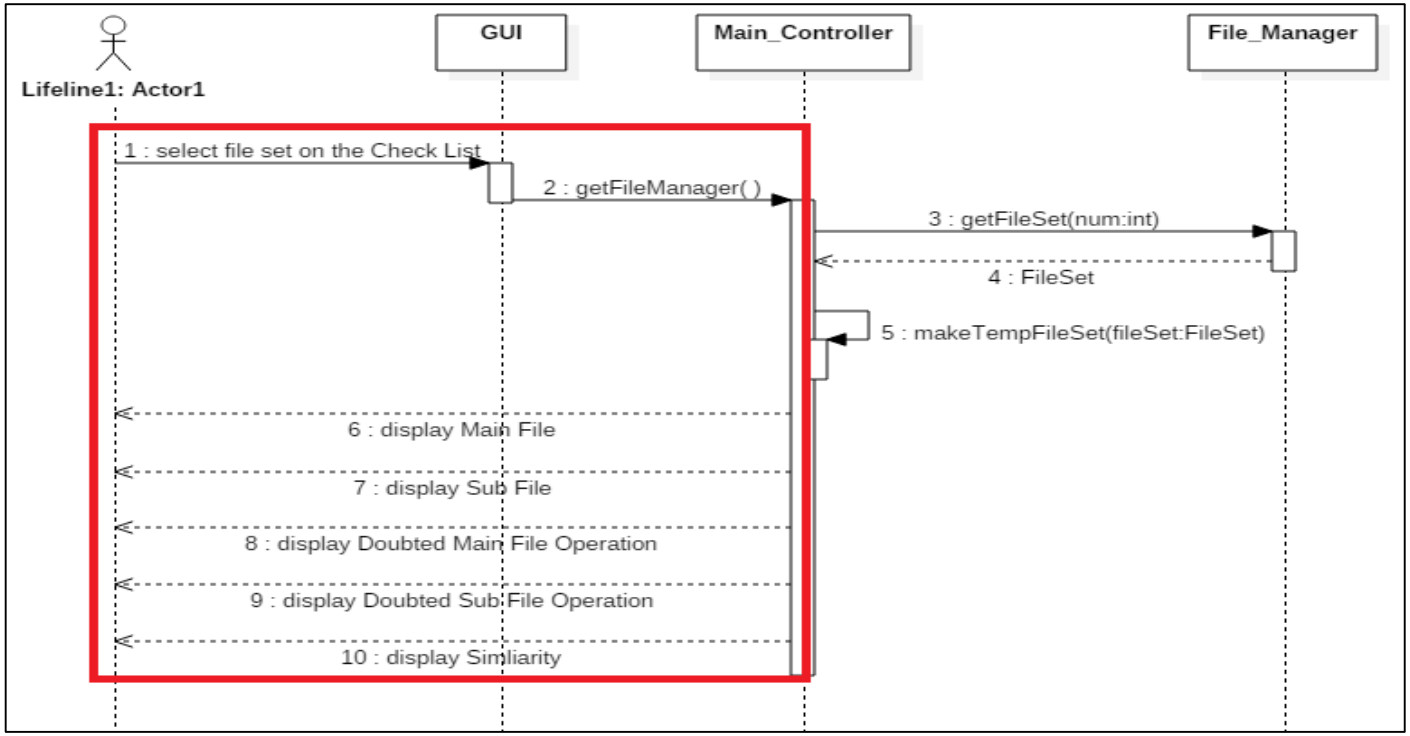
3 Implements Windows

Select File Set



3 Implements Windows

Select File Set



Select File set on the Check List	GUI만 존재	Delete 버튼 누름
Display Similarity		Display Similarity 와 연결

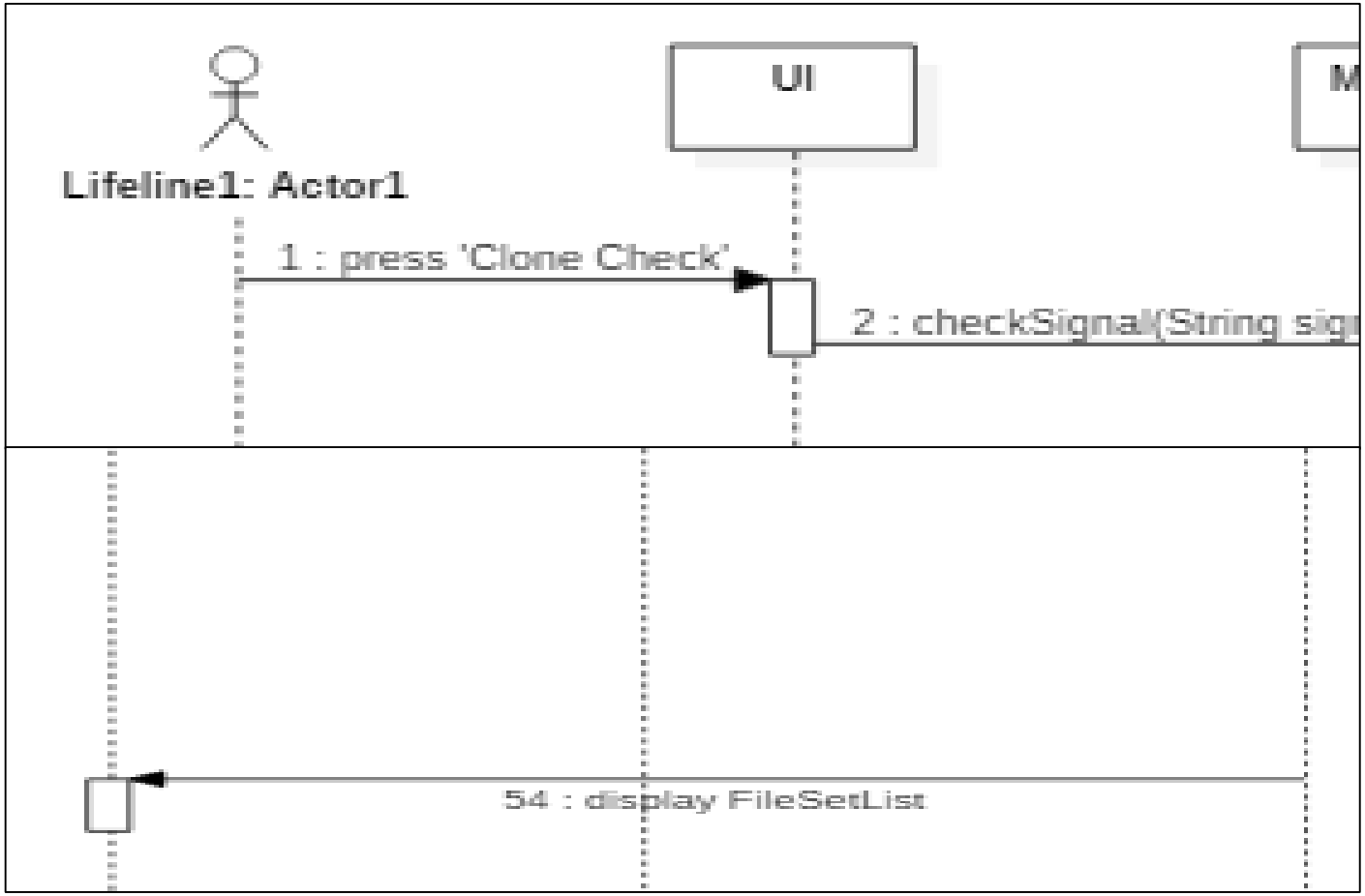
3 Implements Windows

Select File Set

Name	Select File set on the Check List
Responsibilities	GUI에 File Set List 중 하나의 File Set을 선택한다.
Type	GUI
Cross Reference	R4
Notes	생성된 File Set을 누른다.
Pre-Conditions	File Set이 생성되어 있어야 한다.
Post-Conditions	선택된 File Set의 Main File과 Sub File에 대한 내용을 출력해준다.

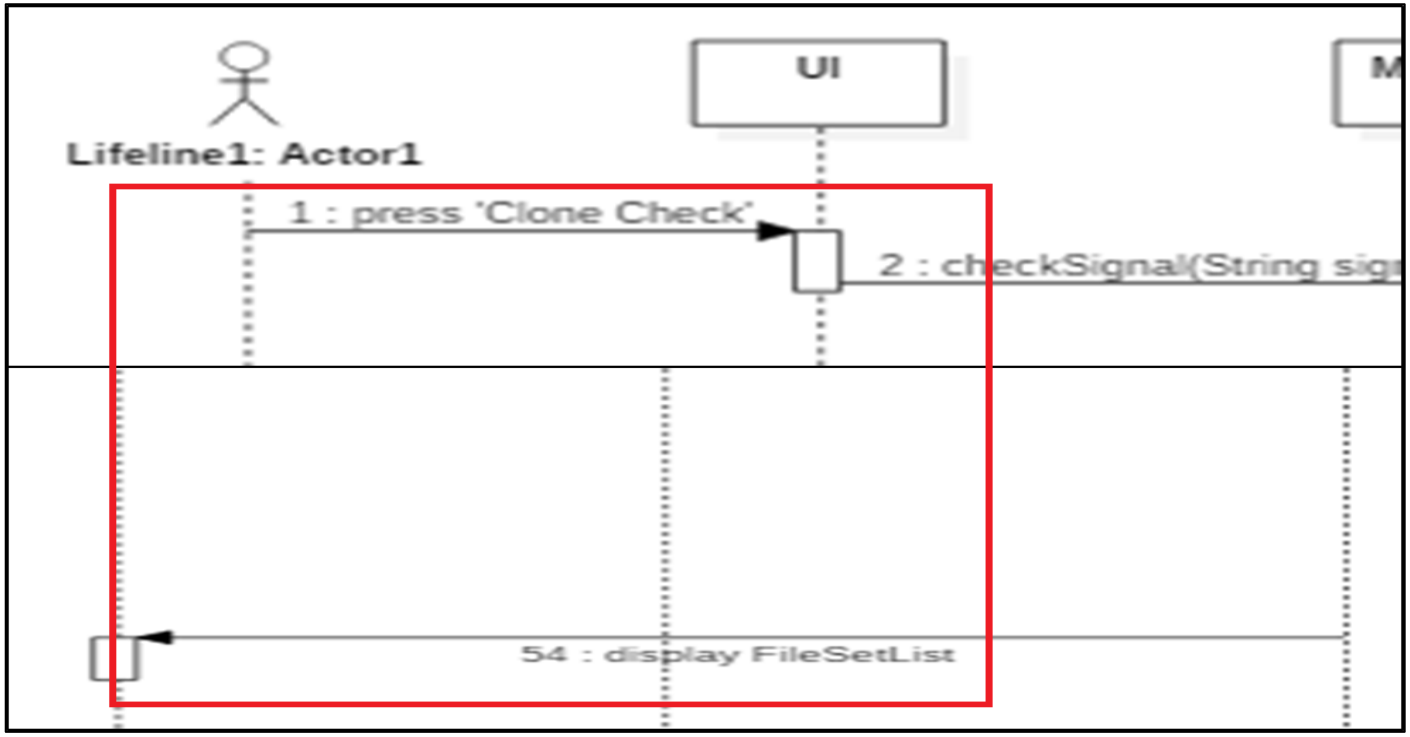
3 Implements Windows

Clone Check



3 Implements Windows

Clone Check



Press 'Clone Check'	GUI만 존재	Clone Check 버튼 누름
Display FileSetList	Print FileSetList	Display FileLSetist 와 연결

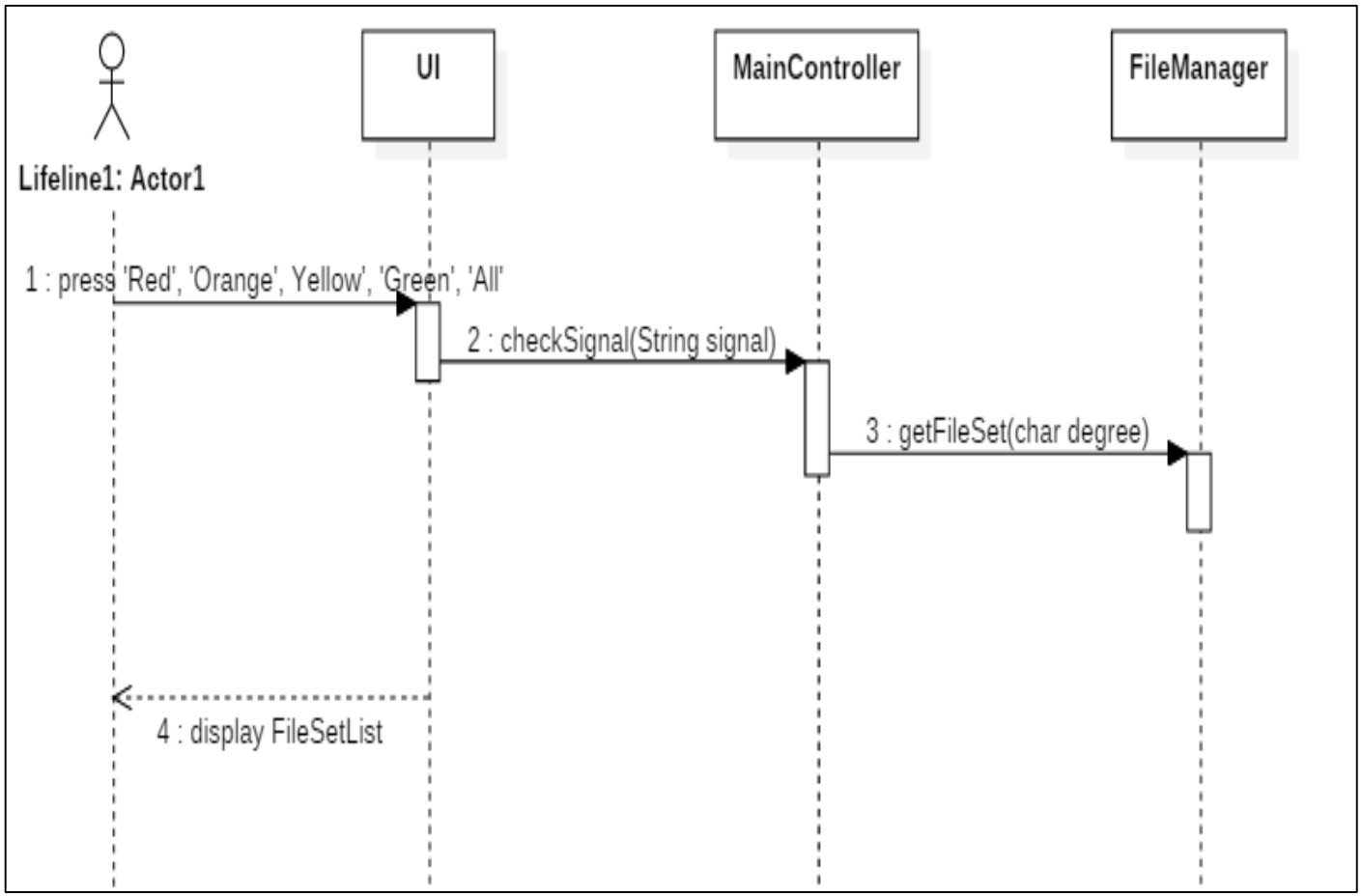
3 Implements Windows

Clone Check

Name	Press ‘Clone Check’
Responsibilities	GUI에 Clone Check 버튼을 누른다.
Type	GUI
Cross Reference	R2
Notes	Clone Check 버튼을 눌러 Cheating 여부를 확인한다.
Pre-Conditions	File Set List가 만들어져 있어야 한다.
Post-Conditions	File Set List의 유사도 결과가 출력된다.

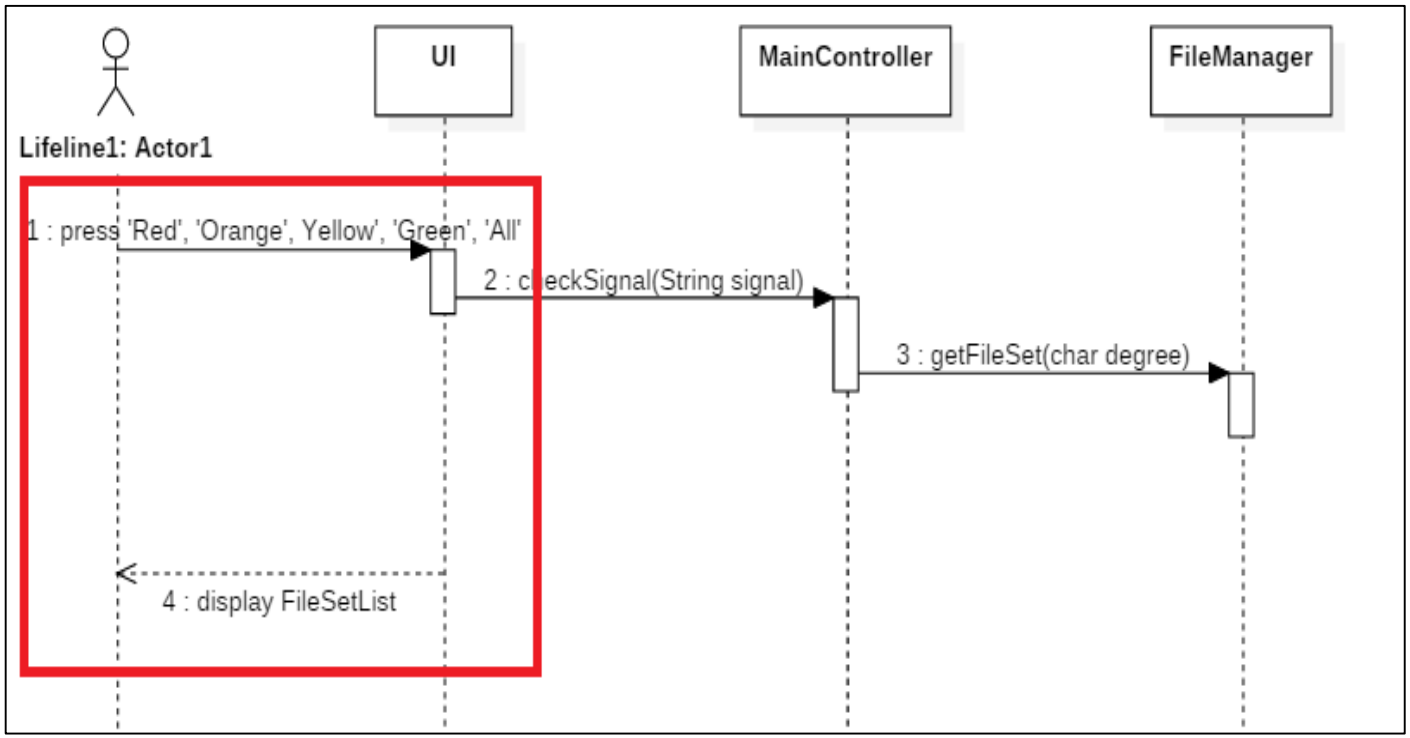
3 Implements Windows

Red,Orange,Yellow,Green,All



3 Implements Windows

Red,Orange,Yellow,Green,All



Press ‘Red’,’Orange’,’Yellow’,’Green’,’All’	GUI만 존재	Color 버튼 누름
Display File Set List	Print File Set List	Display FileSetList 와 연결

3 Implements Windows

Red,Orange,Yellow,Green,All

Name	Press ‘Red’
Responsibilities	GUI에 Red 버튼을 누른다.
Type	GUI
Cross Reference	R3.2
Notes	Red 버튼을 눌러 조건에 맞는 File Set List를 출력한다.
Pre-Conditions	Clone Check가 끝난 File Set List 가 출력되어 있어야 한다.
Post-Conditions	유사도 90% 이상인 File Set List만 출력된다.

Name	Press ‘Orange’
Responsibilities	GUI에 Orange 버튼을 누른다.
Type	GUI
Cross Reference	R3.3
Notes	Orange 버튼을 눌러 조건에 맞는 File Set List를 출력한다.
Pre-Conditions	Clone Check가 끝난 File Set List 가 출력되어 있어야 한다.
Post-Conditions	유사도 70% ~ 90%인 File Set List만 출력된다.

3 Implements Windows

Red,Orange,Yellow,Green,All

Name	Press ‘Yellow’
Responsibilities	GUI에 Yellow 버튼을 누른다.
Type	GUI
Cross Reference	R3.4
Notes	Yellow 버튼을 눌러 조건에 맞는 File Set List를 출력한다.
Pre-Conditions	Clone Check가 끝난 File Set List 가 출력되어 있어야 한다.
Post-Conditions	유사도 50% ~ 70%인 File Set List만 출력된다.

Name	Press ‘Green’
Responsibilities	GUI에 Green 버튼을 누른다.
Type	GUI
Cross Reference	R3.5
Notes	Green 버튼을 눌러 조건에 맞는 File Set List를 출력한다.
Pre-Conditions	Clone Check가 끝난 File Set List 가 출력되어 있어야 한다.
Post-Conditions	유사도 50% 미만인 File Set List만 출력된다.

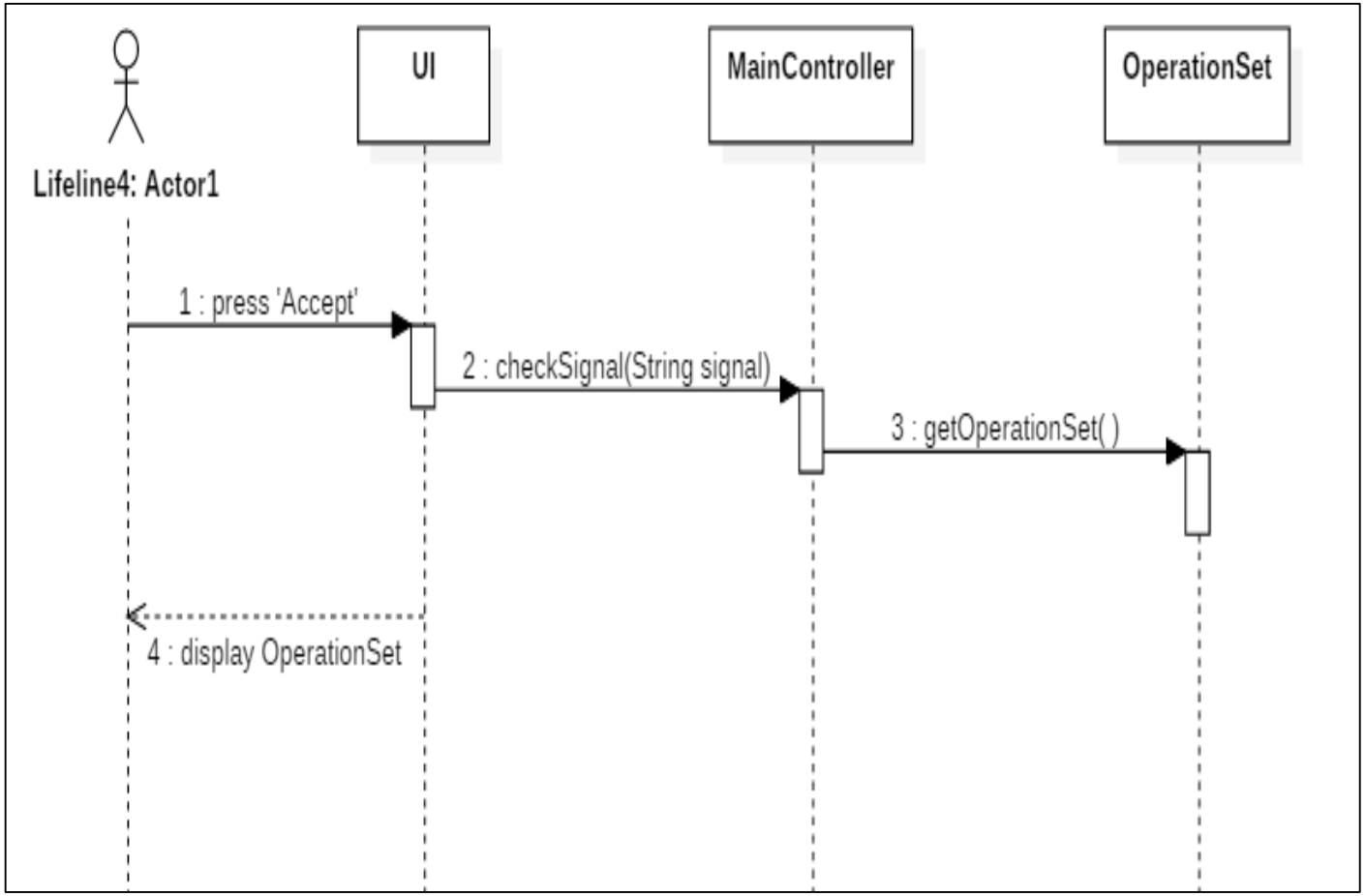
3 Implements Windows

Red,Orange,Yellow,Green,All

Name	Press ‘All’
Responsibilities	GUI에 All 버튼을 누른다.
Type	GUI
Cross Reference	R3.1
Notes	All 버튼을 모든 File Set List를 출력한다.
Pre-Conditions	Clone Check가 끝난 File Set List 가 출력되어 있어야 한다.
Post-Conditions	상관없이 모든 File Set List가 출력된다.

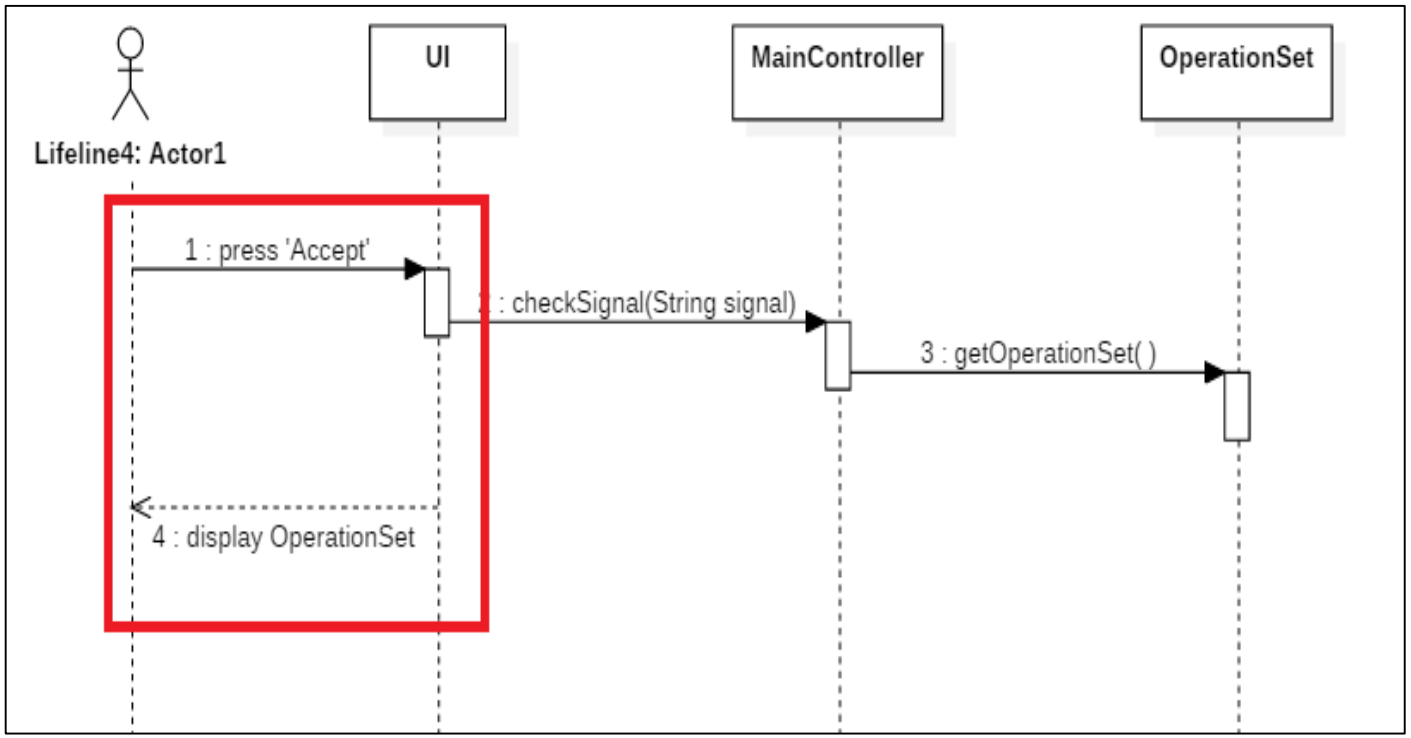
3 Implements Windows

Accept



3 Implements Windows

Accept



Press 'Accept'	GUI만 존재	Accept 버튼 누름
Display OperationSet	Print OperationSet List	Display OperationSet 과 연결

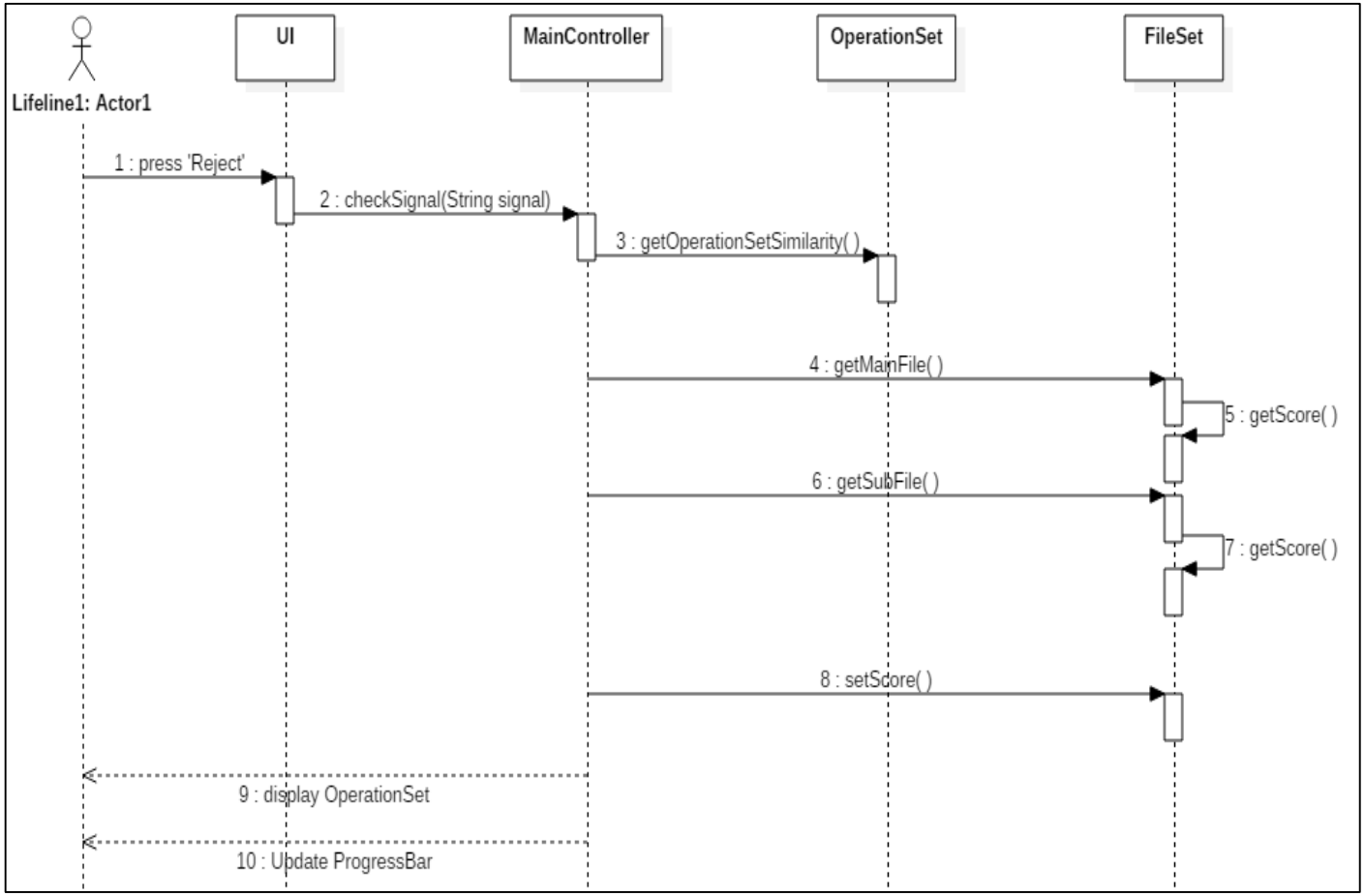
3 Implements Windows

Accept

Name	Press 'Accept'
Responsibilities	GUI에 Accept 버튼을 누른다.
Type	GUI
Cross Reference	R5.1
Notes	GUI에 Accept 버튼을 누른다.
Pre-Conditions	File Set을 선택하여 해당 Main File 의심코드와 Sub File의 의심코드가 보여져야 한다.
Post-Conditions	Accept의 결과가 Clone Check 결과에 반영된다.

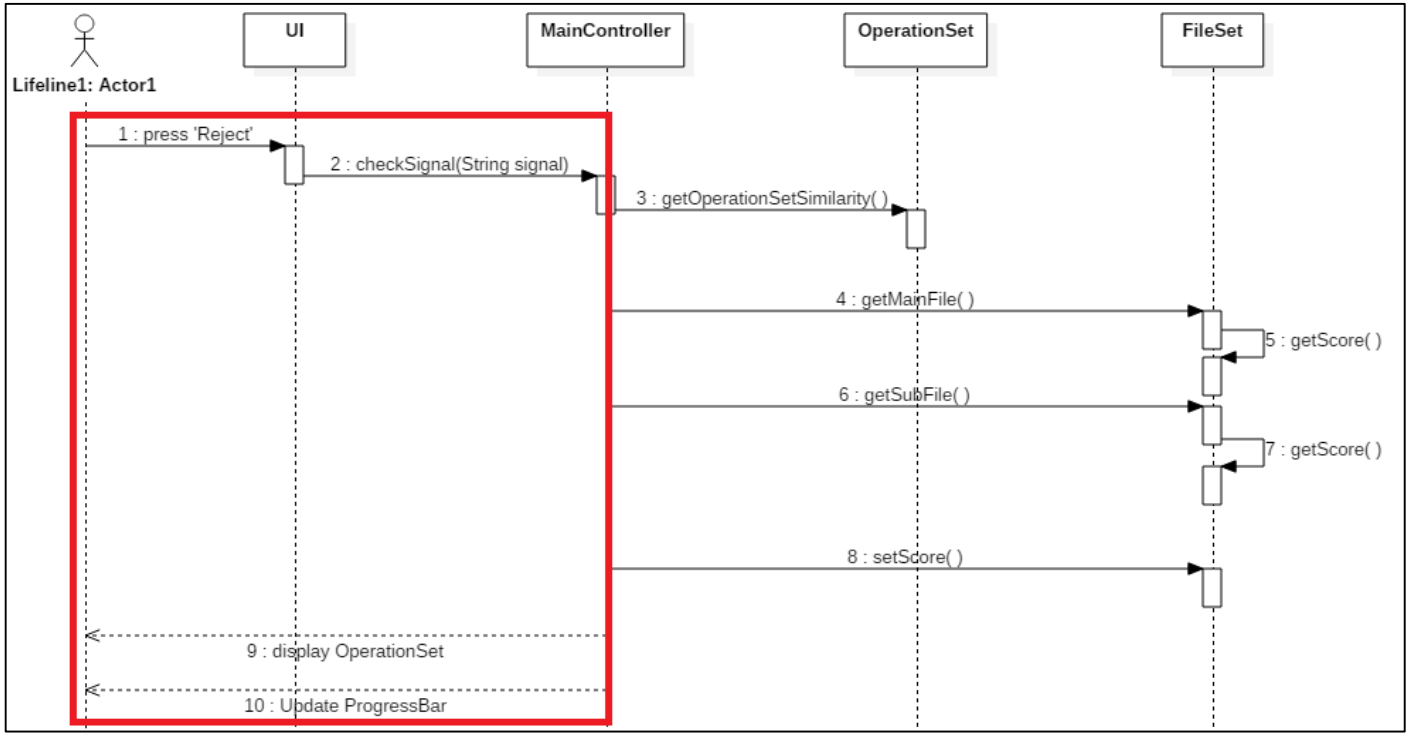
3 Implements Windows

Reject



3 Implements Windows

Reject



Press 'Reject'	GUI만 존재	ADD버튼 누름
Display OperationSet		Display OperationSet 과 연결
Upate ProgressBar		Update ProgressBar 와 연결

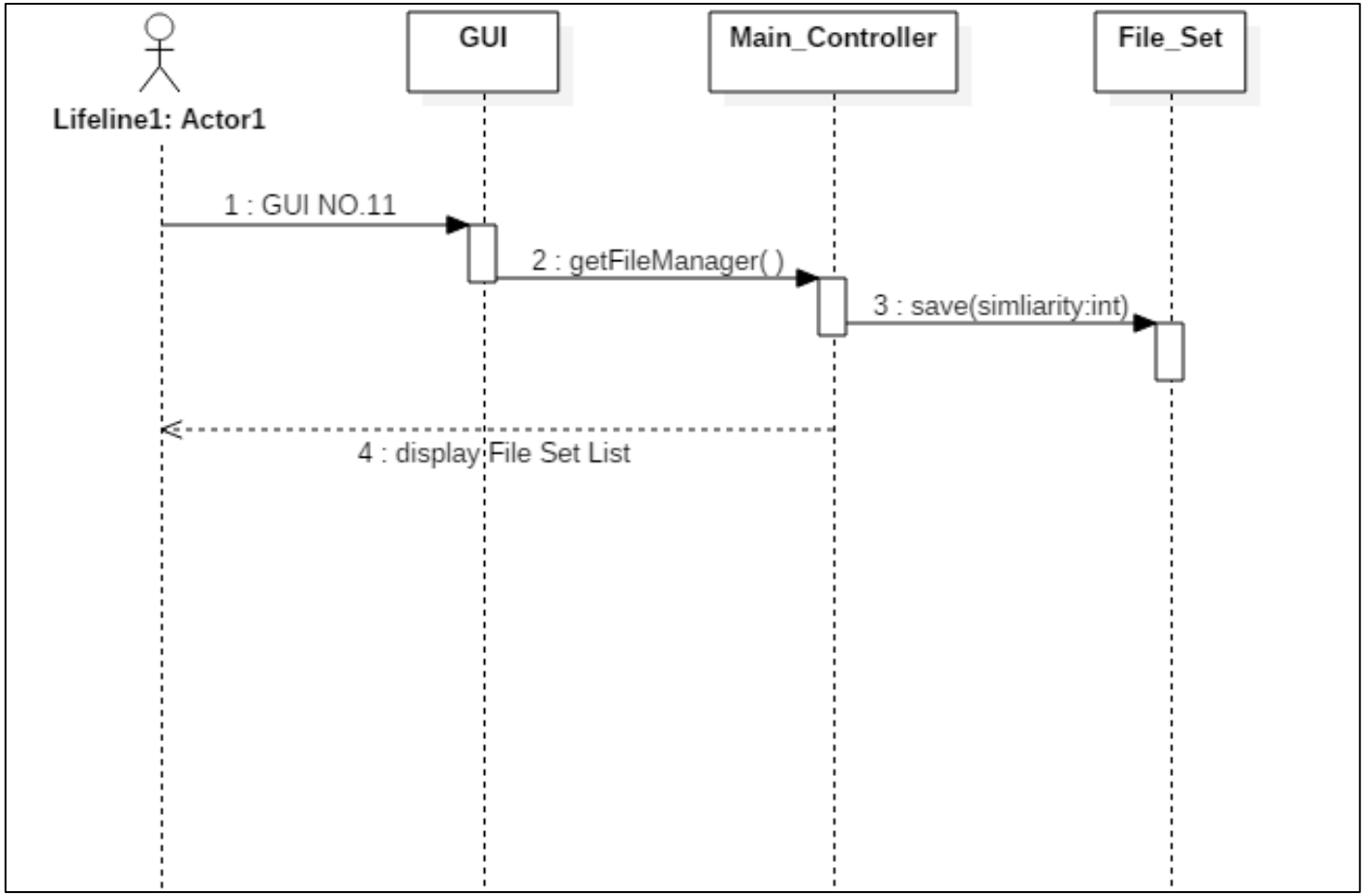
3 Implements Windows

Reject

Name	Press ‘Reject’
Responsibilities	GUI에 Reject 버튼을 누른다.
Type	GUI
Cross Reference	R5.2
Notes	GUI에 Reject 버튼을 누른다.
Pre-Conditions	File Set을 선택하여 해당 Main File 의심코드와 Sub File의 의심코드가 보여져야 한다.
Post-Conditions	Reject의 결과가 Clone Check 결과에 반영된다.

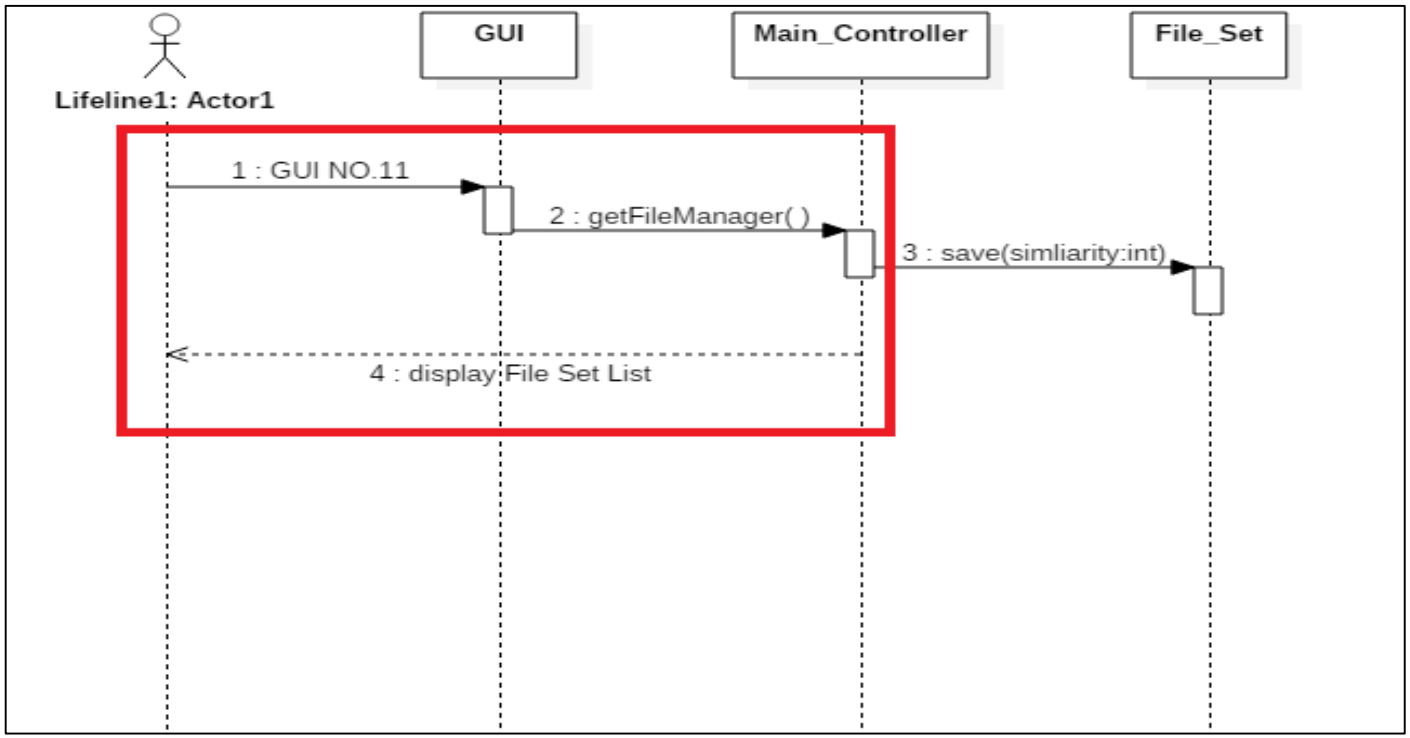
3 Implements Windows

Save



3 Implements Windows

Save



GUI NO 11	GUI만 존재	Save 버튼 누름
Display File Set List		Display File Set List 와 연결

3 Implements Windows

Save

Name	Press ‘Save’
Responsibilities	GUI에 Save 버튼을 누른다.
Type	GUI
Cross Reference	R6
Notes	GUI에 Save 버튼을 누른다.
Pre-Conditions	File Set을 선택하여 해당 Main File 의심코드와 Sub File의 의심코드가 보여져야 한다.
Post-Conditions	Save의 결과가 File Set List에 반영된다.

4 Write Unit Test Code

UserFile Unit Test Code

```
@Test
public void testCalculateScore() {
    try {
         int data;
         FileInputStream input = new FileInputStream("C://Users//Rie//Desktop//Project_1//OneMoreChance//source");
         while ((data = input.read()) != -1) {
            uf.sourceCode += (char) data;
         }
         input.close();
      } catch (FileNotFoundException e) {
         e.printStackTrace();
      } catch (IOException e) {
         e.printStackTrace();
      }
    uf.checkSyntax();
    uf.checkFunction(uf.operation.get(0));
    uf.checkBranch(uf.operation.get(0));
    uf.checkOperation(uf.operation.get(0));
    uf.calculateScore();
}

@Test
public void testGetScore() {
    uf.score=10;
    assertEquals(10, uf.getScore());
}

@Test
public void testGetGlobalValue() {
    System.out.println("Pass");
}

@Test
public void testGetOperation() {
    try {
         int data;
         FileInputStream input = new FileInputStream("C://Users//Rie//Desktop//Project_1//OneMoreChance//source");
         while ((data = input.read()) != -1) {
            uf.sourceCode += (char) data;
         }
         input.close();
      } catch (FileNotFoundException e) {
         e.printStackTrace();
      } catch (IOException e) {
         e.printStackTrace();
      }
    uf.checkSyntax();

    assertEquals(uf.operation.get(0), uf.getOperation().get(0));
}
```

4 Write Unit Test Code

FileManager Unit Test Code

```
@Test
public void testGetTempIndex() {
    fm.tempIndex = 0;
    assertEquals(fm.tempIndex, fm.getTempIndex());
}

@Test
public void testGetFileSetChar() {
    FileSet fs = new FileSet(uf1, uf2);
    fm.fileSet.add(fs);
    assertEquals(fs, fm.getFileSet('a').get(0));

}

@Test
public void testGetFileSetInt() {
    FileSet fs = new FileSet(uf1, uf2);
    fm.fileSet.add(fs);
    assertEquals(fs, fm.getFileSet(0));
}

@Test
public void testGetFileManager() {
    assertEquals(fm, fm.getFileManager());
}

@Test
public void testGetFileSetCount() {
    FileSet fs = new FileSet(uf1, uf2);
    for (int i = 0; i < 100; i++) {
        fm.uFile.add(uf1);
        fm.fileNo++;
    }
    fm.makeFileSet();
    System.out.println(fm.getFileSetCount());
    assertEquals((100*99/2), fm.getFileSetCount());
}
```

4 Write Unit Test Code

GlobalValue Unit Test Code

```
@Test
public void testGetConio() {
	String name = "conio.h";
	gv.setHeader(name);
	assertEquals(gv.conio,true);

}

@Test
public void testSetGlobalValueType() {
	gv.setGlobalValueType(10);
	assertEquals(10,gv.globalValueType);
}

@Test
public void testGetGlobalValueType() {
	gv.globalValueType = 10;
	assertEquals(10,gv.getGlobalValueType());
}

@Test
public void testSetGlobalValueName() {
	gv.name = "test";
	gv.setGlobalValueName("test2");
	assertEquals("test2",gv.name);
}

@Test
public void testGetGlobalValueName() {
	gv.name = "test";
	assertEquals("test",gv.getGlobalValueName());
}

@Test
public void testSetUseCount() {
	gv.useCount = 10;
	assertEquals(10,gv.useCount);
```

4 Write Unit Test Code

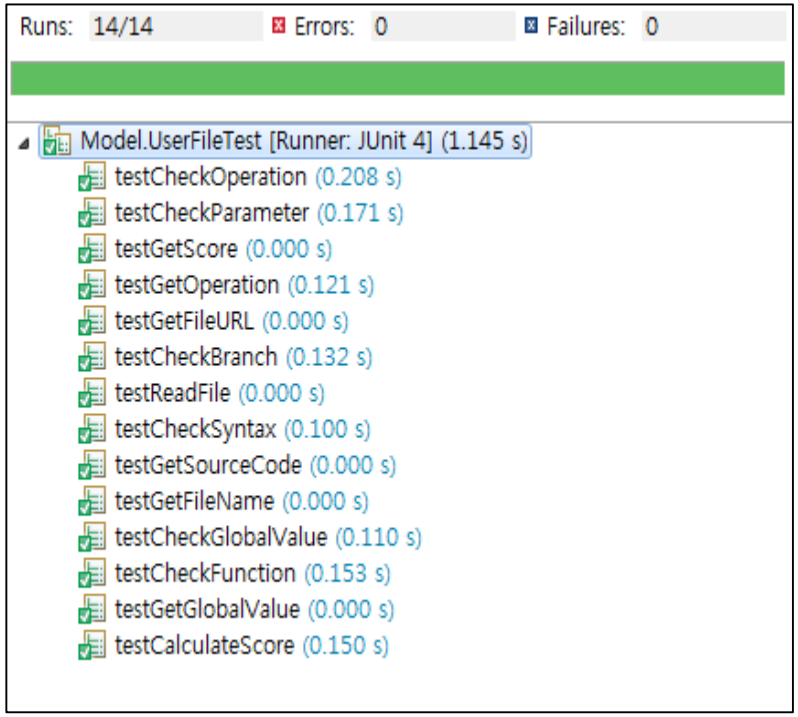
Branch & FileSet Unit Test Code

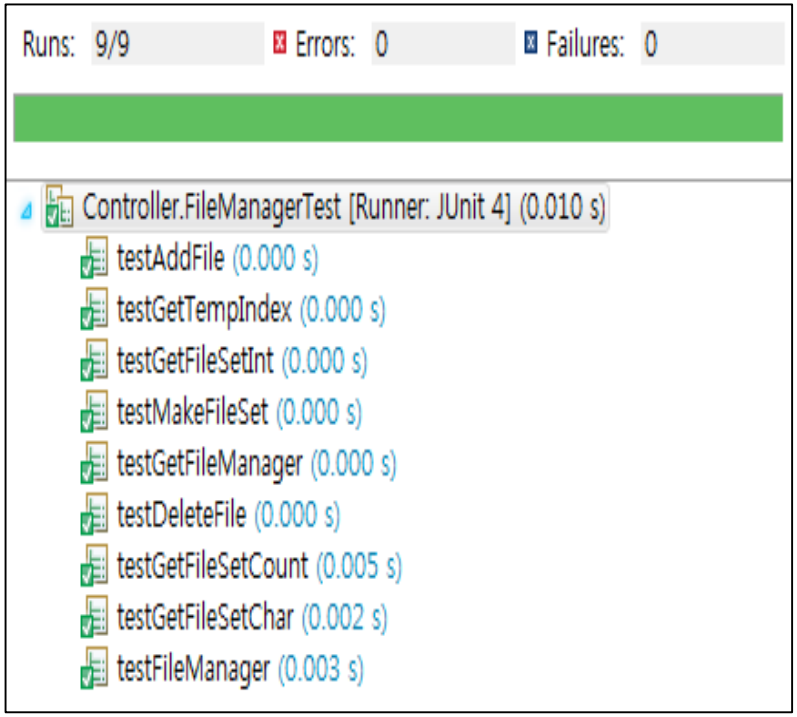
```
Branch b = new Branch();

@Test
public void testBranch() {
    System.out.println("Pass");
}

@Test
public void testSetType() {
    b.setType(1);
    assertEquals(b.type,b.getType());
}

@Test
public void testGetType() {
    b.setType(1);
    assertEquals(b.type,b.getType());
}

@Test
public void testAddComplexity() {
    b.complexity=0;
    b.addComplexity();
    assertEquals(1,b.complexity);
    b.addComplexity();
    b.addComplexity();
    b.addComplexity();
    b.addComplexity();
    assertEquals(5,b.complexity);
}

@Test
public void testGetComplexity() {
    b.complexity=0;
    assertEquals(0,b.getComplexity());
    b.addComplexity();
    b.addComplexity();
    b.addComplexity();
```

```
public void testAddGVSimilarity() {
    fs.gvSimilarity = 0;
    assertEquals(0, fs.gvSimilarity);
    fs.addGVSimilarity(7);
    assertEquals(7, fs.gvSimilarity);
}

@Test
public void testGetGVSimilarity() {
    fs.gvSimilarity = 0;
    assertEquals(0, fs.getGVSimilarity());
    fs.addGVSimilarity(11);
    assertEquals(11, fs.getGVSimilarity());
}

@Test
public void testAddOpSimilarity() {
    fs.operationSimilarity = 0;
    assertEquals(0, fs.operationSimilarity);
    fs.addOpSimilarity(10);
    assertEquals(10, fs.operationSimilarity);
}

@Test
public void testGetOpSimilarity() {
    fs.operationSimilarity = 0;
    assertEquals(0, fs.getOpSimilarity());
    fs.addOpSimilarity(11);
    assertEquals(11, fs.getOpSimilarity());
}

@Test
public void testSetTotalSimilarity() {
    fs.setTotalSimilarity(10);
    assertEquals(10, fs.totalSimilarity);
}

@Test
public void testAddTotalSimilarity() {
    fs.totalSimilarity = 0;
    assertEquals(0, fs.totalSimilarity);
    fs.addTotalSimilarity(10);
    assertEquals(10, fs.totalSimilarity);
}

@Test
public void testGetTotalSimilarity() {
    fs.totalSimilarity = 0;
    assertEquals(0,fs.getTotalSimilarity());
    fs.totalSimilarity++;
    assertEquals(1,fs.getTotalSimilarity());
}
```

5 Unit Testing

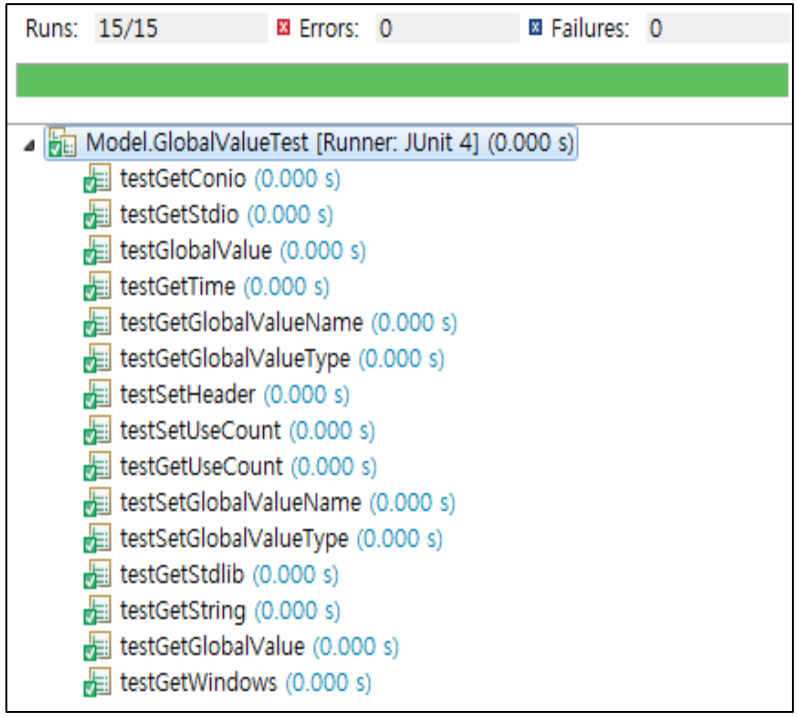
UserFile & FileManager Unit Testing

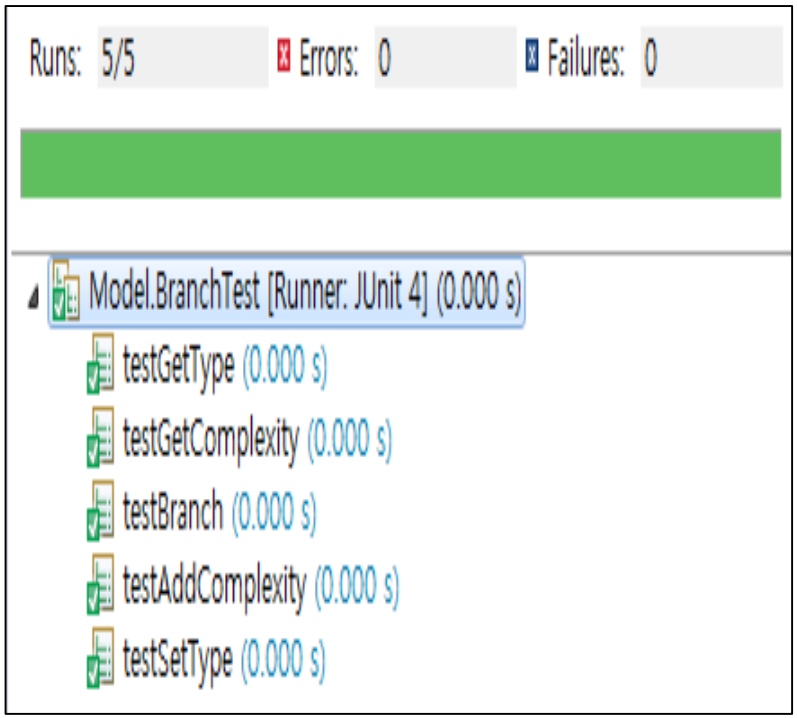




5 Unit Testing

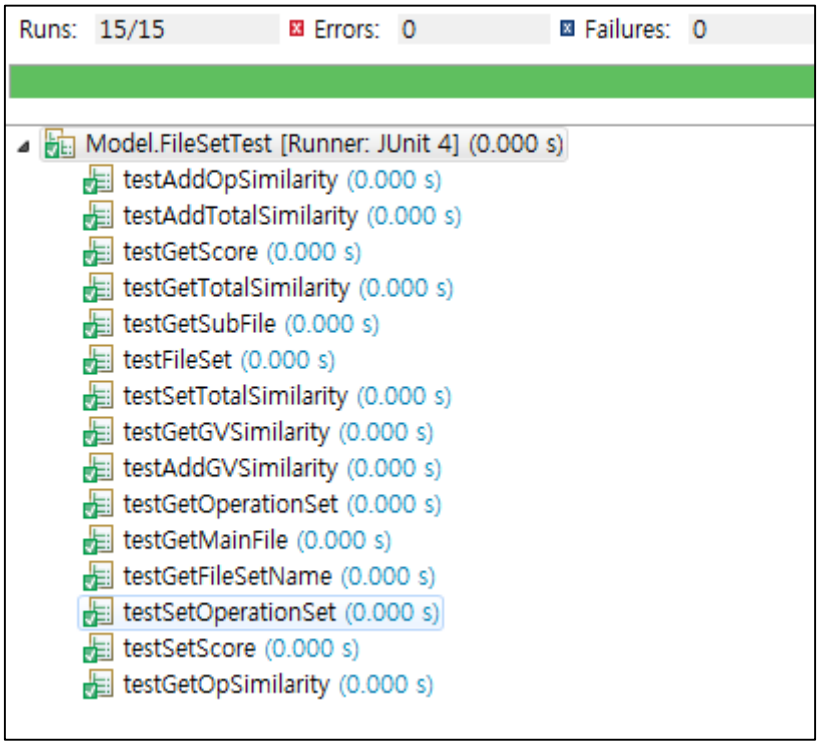
GlovbalValue & Branch Unit Testing





5 Unit Testing

FileSet Unit Testing



6 System Testing

System Testing

Test Number	Test 항목	Description	Use-Case	System Function
1	Load 버튼 시험	User가 Load한 Code File이 List에 Load 되는지 확인한다.	1. Load Code	R1.1
2	Delete 버튼 시험	User가 Delete한 Code File이 List에서 Delete되는지 확인한다.	2. Delete Code	R1.2
4	Clone Check 버튼 시험	Load된 모든 File간의 Clone Check가 수행되는지 확인한다.	4. Clone Check	R2
9	All 버튼 시험	모든 File Set List가 Display 되는지 확인한다.	12. Show All	R3.1
10	Red 버튼 시험	코드간 유사성이 100%~90%인 Code Set이 Display 되는지 확인한다.	13. Show Red	R3.2
11	Orange 버튼 시험	코드간 유사성이 90~70%인 Code Set이 Display 되는지 확인한다.	14 Show Orange	R3.3
12	Yellow 버튼 시험	코드간 유사성이 70~50%인 Code Set이 Display되는지 확인한다.	15. Show Yellow	R3.4
13	Green 버튼 시험	코드간 유사성이 50% 미만인 Code Set이 Display 되는지 확인한다.	16. Show Green	R3.5
14	File Set Select 시험	Clone Check가 끝난 File List상에서 File Set이 선택되는지 확인한다..	17. Show Green	R4
20	Accept 버튼 시험	User Accept 명령이 정확하게 전달 되는지 확인한다.	23. User Accept	R5.1
21	Reject 버튼 시험	User Reject 명령이 정확하게 전달 되는지 확인한다.	24. User Reject	R5.2
22	Save 버튼 시험	User의 Save 명령이 정확하게 전달되는지 확인한다.	25. Save	R6

6 System Testing

System Testing

Test Number	Test 항목	Description	Use-Case	System Function
1	Load 버튼 시험	User가 Load한 Code File이 List에 Load 되는지 확인한다.	1. Load Code	R1.1

- 1 : Load 버튼을 누르고 File 선택 창에서 Load할 File를 선택한다(Pass)

Test Number	Test 항목	Description	Use-Case	System Function
2	Delete 버튼 시험	User가 Delete한 Code File이 List에서 Delete되는지 확인한다.	2. Delete Code	R1.2

- 2 : GUI File List에서 하나의 File을 선택하고 Delete 버튼을 누른다.(Pass)

Test Number	Test 항목	Description	Use-Case	System Function
4	Clone Check 버튼 시험	Load된 모든 File간의 Clone Check가 수행되는지 확인한다.	4. Clone Check	R2

- 4 : Clone Check 버튼을 누른다. (Pass)

6 System Testing

System Testing

Test Number	Test 항목	Description	Use-Case	System Function
9	All 버튼 시험	모든 File Set List가 Display 되는지 확인한다.	12. Show All	R3.1

- 9 : All 버튼을 누른다. (Pass)

Test Number	Test 항목	Description	Use-Case	System Function
10	Red 버튼 시험	코드간 유사성이 100%~90%인 Code Set이 Display 되는지 확인한다.	13. Show Red	R3.2

- 10 : Red 버튼을 누른다. (Pass)

Test Number	Test 항목	Description	Use-Case	System Function
11	Orange 버튼 시험	코드간 유사성이 90~70%인 Code Set이 Display 되는지 확인한다.	14 Show Orange	R3.3

- 11 : Orange 버튼을 누른다. (Pass)

6 System Testing

System Testing

Test Number	Test 항목	Description	Use-Case	System Function
12	Yellow 버튼 시험	코드간 유사성이 70~50%인 Code Set이 Display되는지 확인한다.	15. Show Yellow	R3.4

- 12 : Yellow 버튼을 누른다. (Pass)

Test Number	Test 항목	Description	Use-Case	System Function
13	Green 버튼 시험	코드간 유사성이 50% 미만인 Code Set이 Display 되는지 확인한다.	16. Show Green	R3.5

- 13 : Green 버튼을 누른다. (Pass)

Test Number	Test 항목	Description	Use-Case	System Function
14	File Set Select 시험	Clone Check가 끝난 File List상에서 File Set이 선택되는지 확인한다..	17. Show Green	R4

- 14 : GUI File Set List에서 하나의 File Set을 더블 클릭한다. (Pass)

6 System Testing

System Testing

Test Number	Test 항목	Description	Use-Case	System Function
20	Accept 버튼 시험	User Accept 명령이 정확하게 전달 되는지 확인한다.	23. User Accept	R5.1

- 20 : 선택된 File Set의 Main File와 Sub File의 유사 의심 코드 부분을 보고 Accept 버튼을 누른다. (Pass)

Test Number	Test 항목	Description	Use-Case	System Function
21	Reject 버튼 시험	User Reject 명령이 정확하게 전달 되는지 확인한다.	24. User Reject	R5.2

- 21 : 선택된 File Set의 Main File와 Sub File의 유사 의심 코드 부분을 보고 Reject 버튼을 누른다.
- (Non-Pass : Reject 버튼을 빠르게 클릭하면 결과가 반영되지 않는다.)

Test Number	Test 항목	Description	Use-Case	System Function
22	Save 버튼 시험	User의 Save 명령이 정확하게 전달되는지 확인한다.	25. Save	R6

- 22 : Save 버튼을 누른다. 선택된 File Set의 Main File와 Sub File의 유사 의심 코드 부분을 보고 Accept 버튼을 누른다. (Pass)

6 System Testing

System Testing

Test Number	Test 항목	Description	Use-Case	System Function
20	Accept 버튼 시험	User Accept 명령이 정확하게 전달 되는지 확인한다.	23. User Accept	R5.1

- 20 : 선택된 File Set의 Main File와 Sub File의 유사 의심 코드 부분을 보고 Accept 버튼을 누른다. (Pass)

Test Number	Test 항목	Description	Use-Case	System Function
21	Reject 버튼 시험	User Reject 명령이 정확하게 전달 되는지 확인한다.	24. User Reject	R5.2

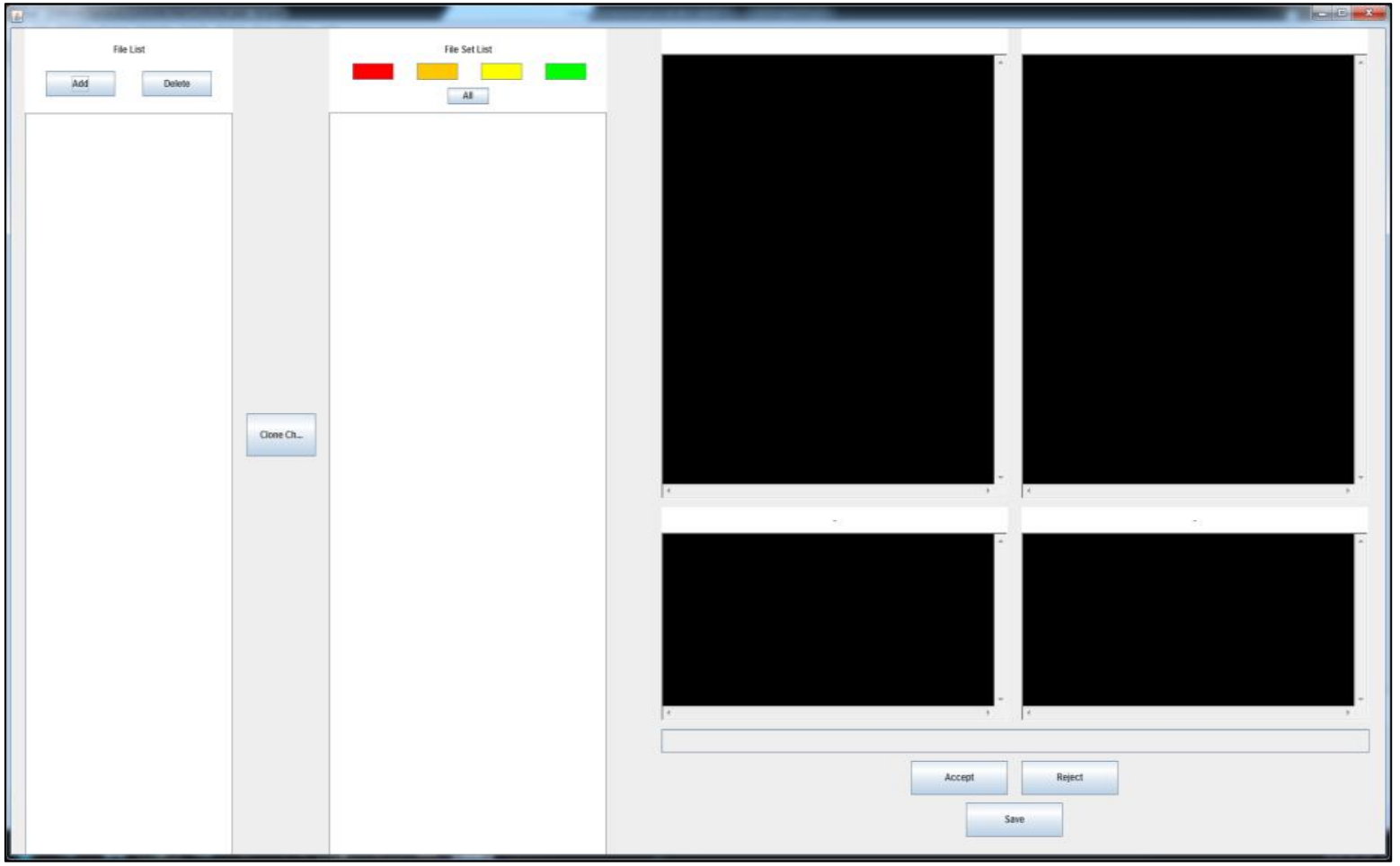
- 21 : 선택된 File Set의 Main File와 Sub File의 유사 의심 코드 부분을 보고 Reject 버튼을 누른다.
- (Non-Pass : Reject 버튼을 빠르게 클릭하면 결과가 반영되지 않는다.)

Test Number	Test 항목	Description	Use-Case	System Function
22	Save 버튼 시험	User의 Save 명령이 정확하게 전달되는지 확인한다.	25. Save	R6

- 22 : Save 버튼을 누른다. 선택된 File Set의 Main File와 Sub File의 유사 의심 코드 부분을 보고 Accept 버튼을 누른다. (Pass)

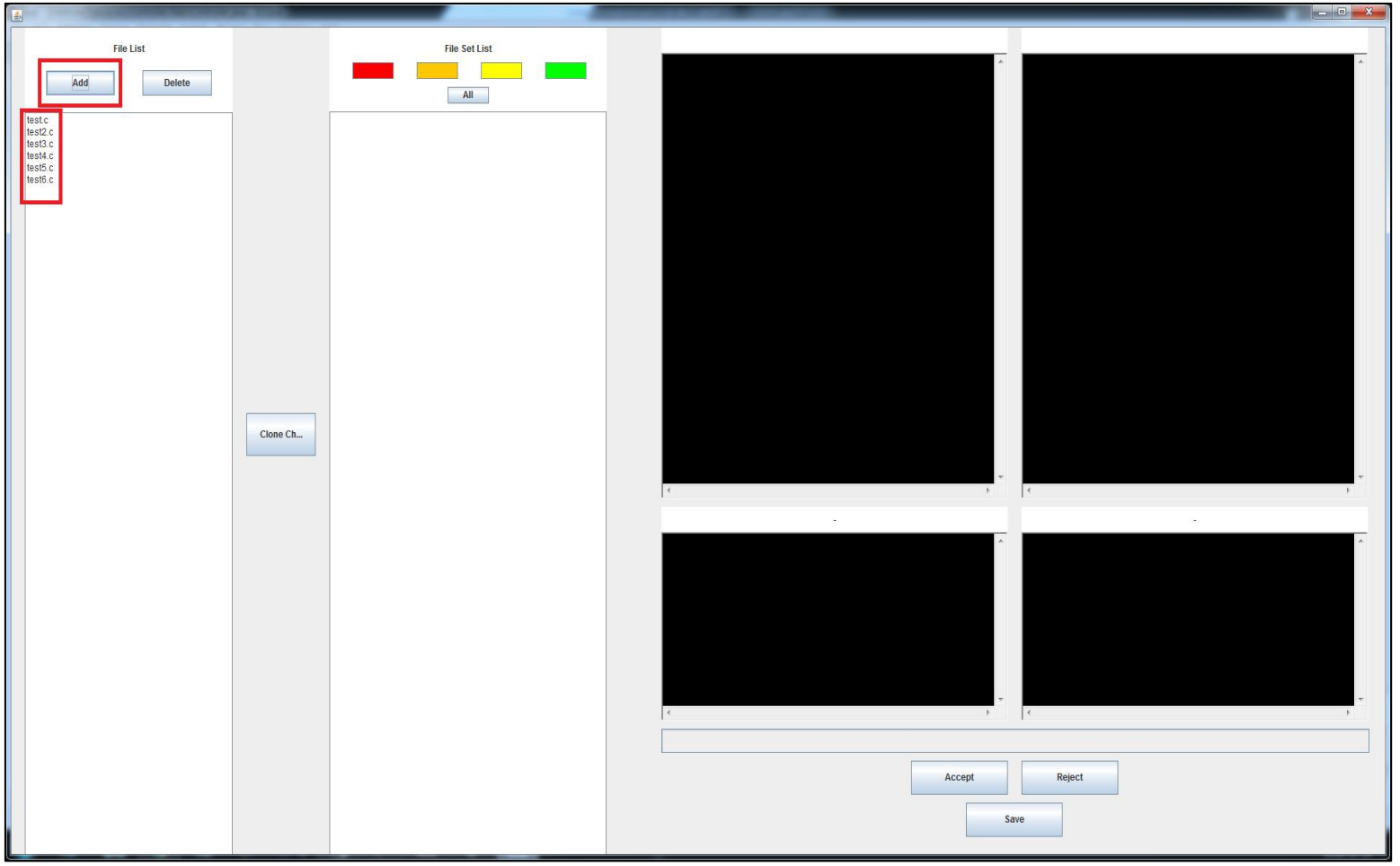
7 프로그램 설명

첫번째 화면



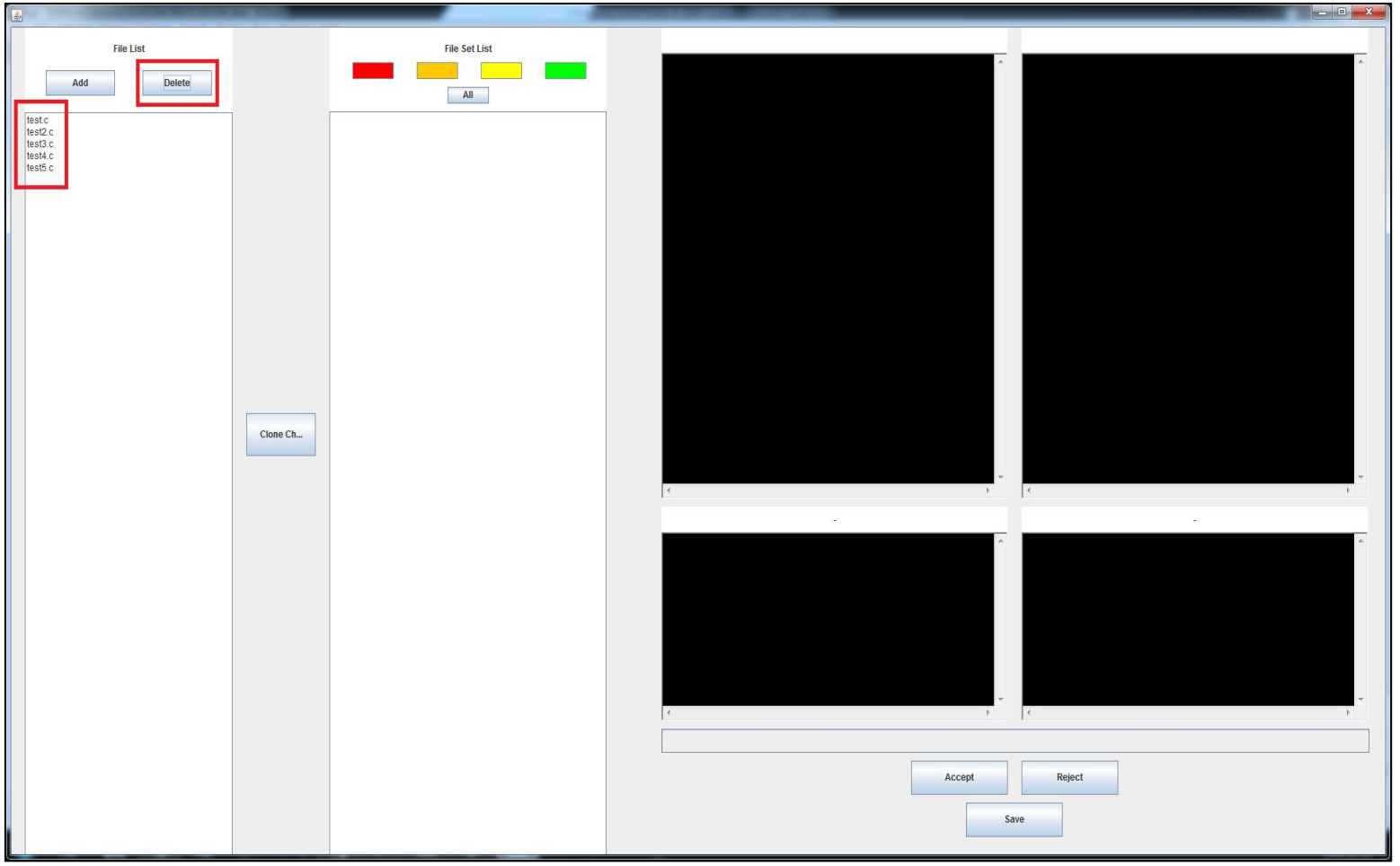
7 프로그램 설명

두번째 화면



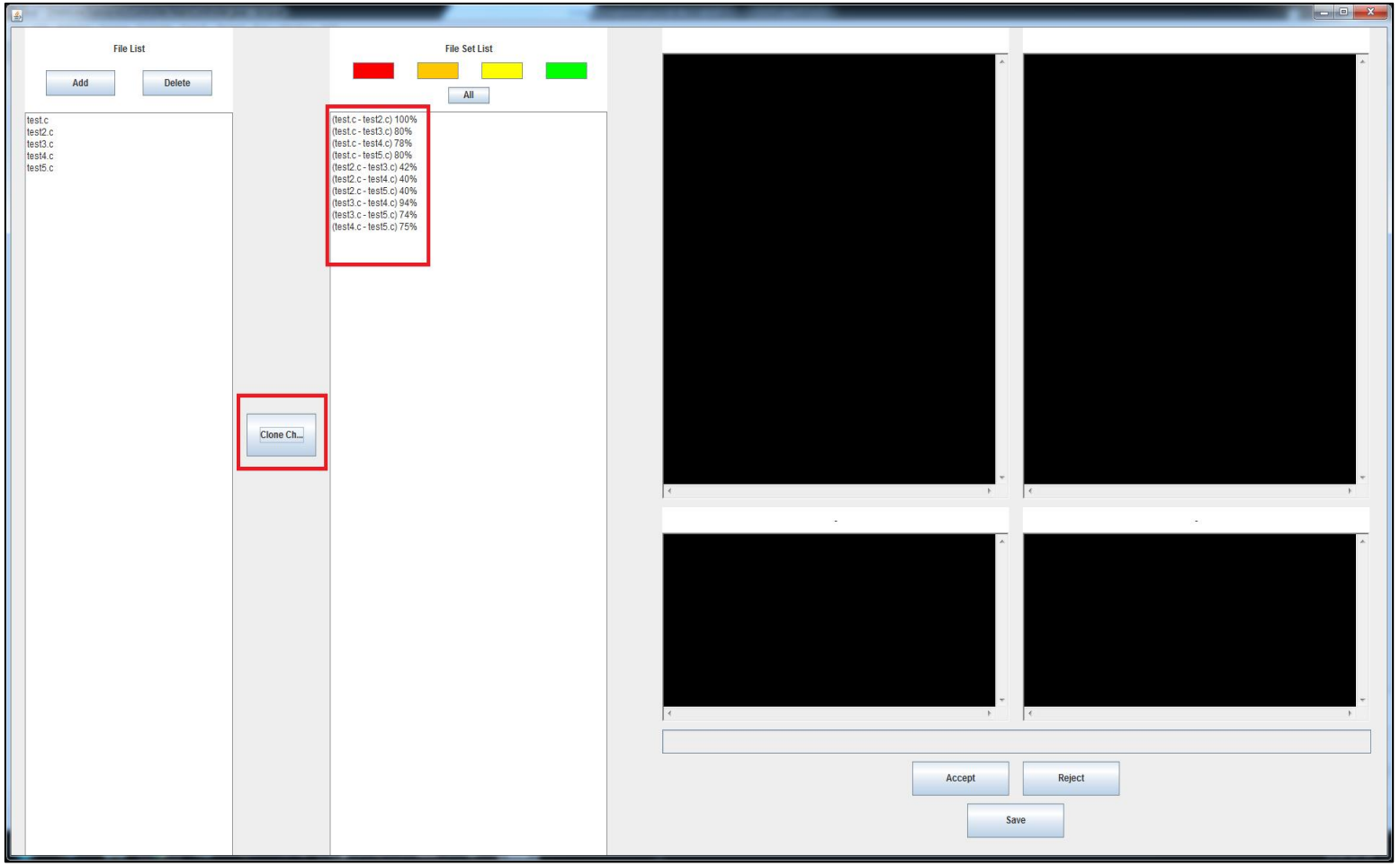
7 프로그램 설명

세번째 화면



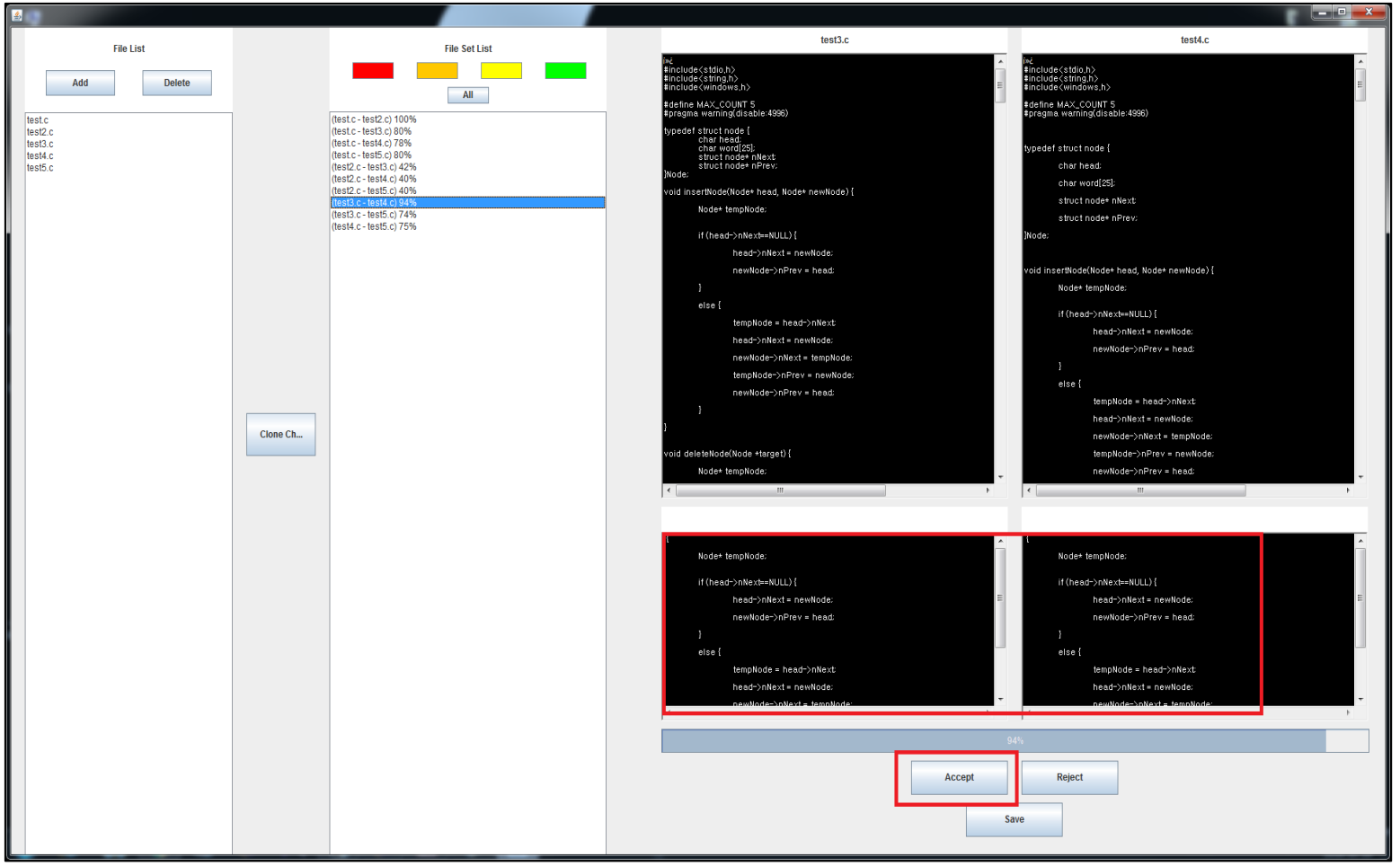
7 프로그램 설명

네번째 화면



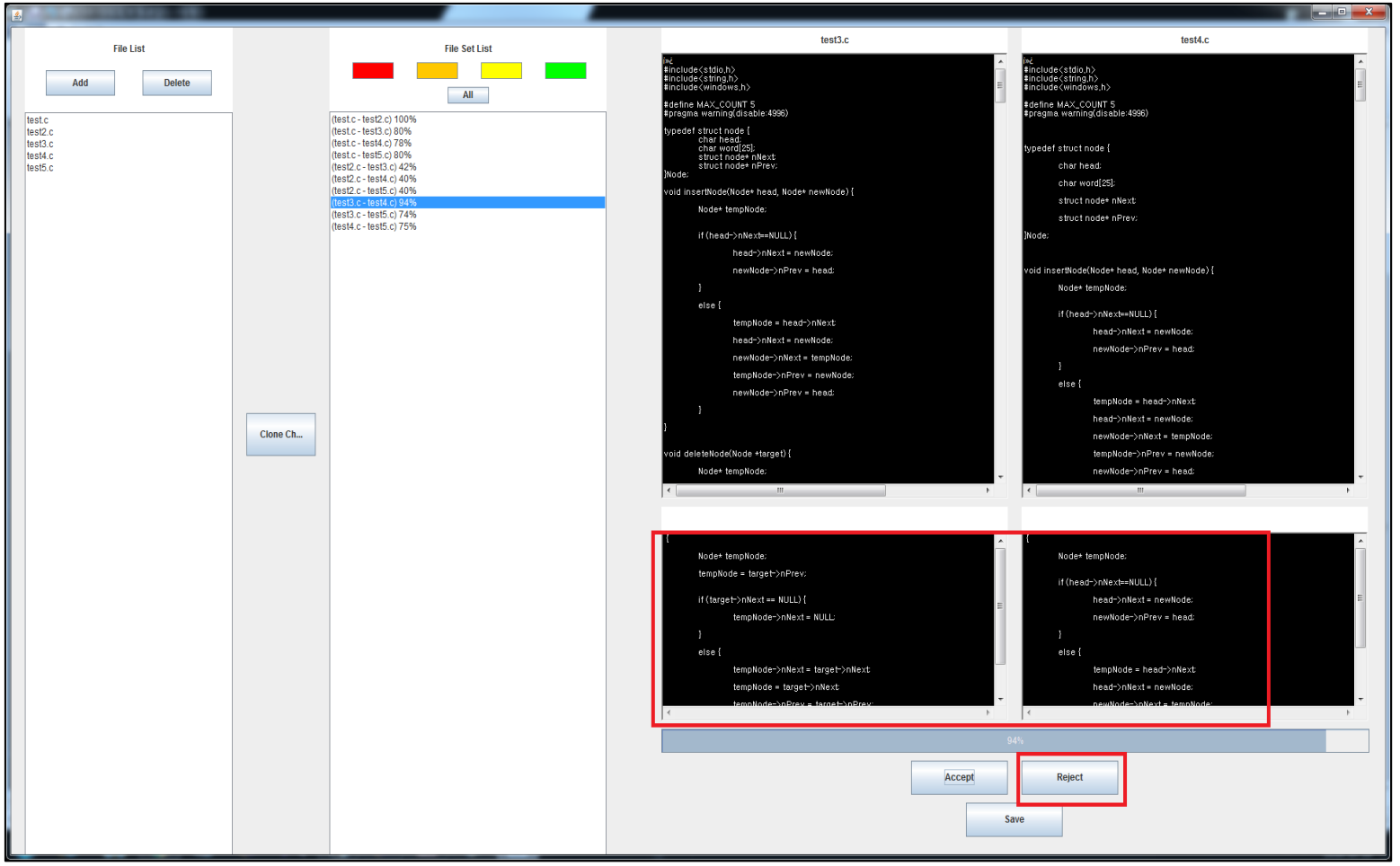
7 프로그램 설명

다섯번째 화면



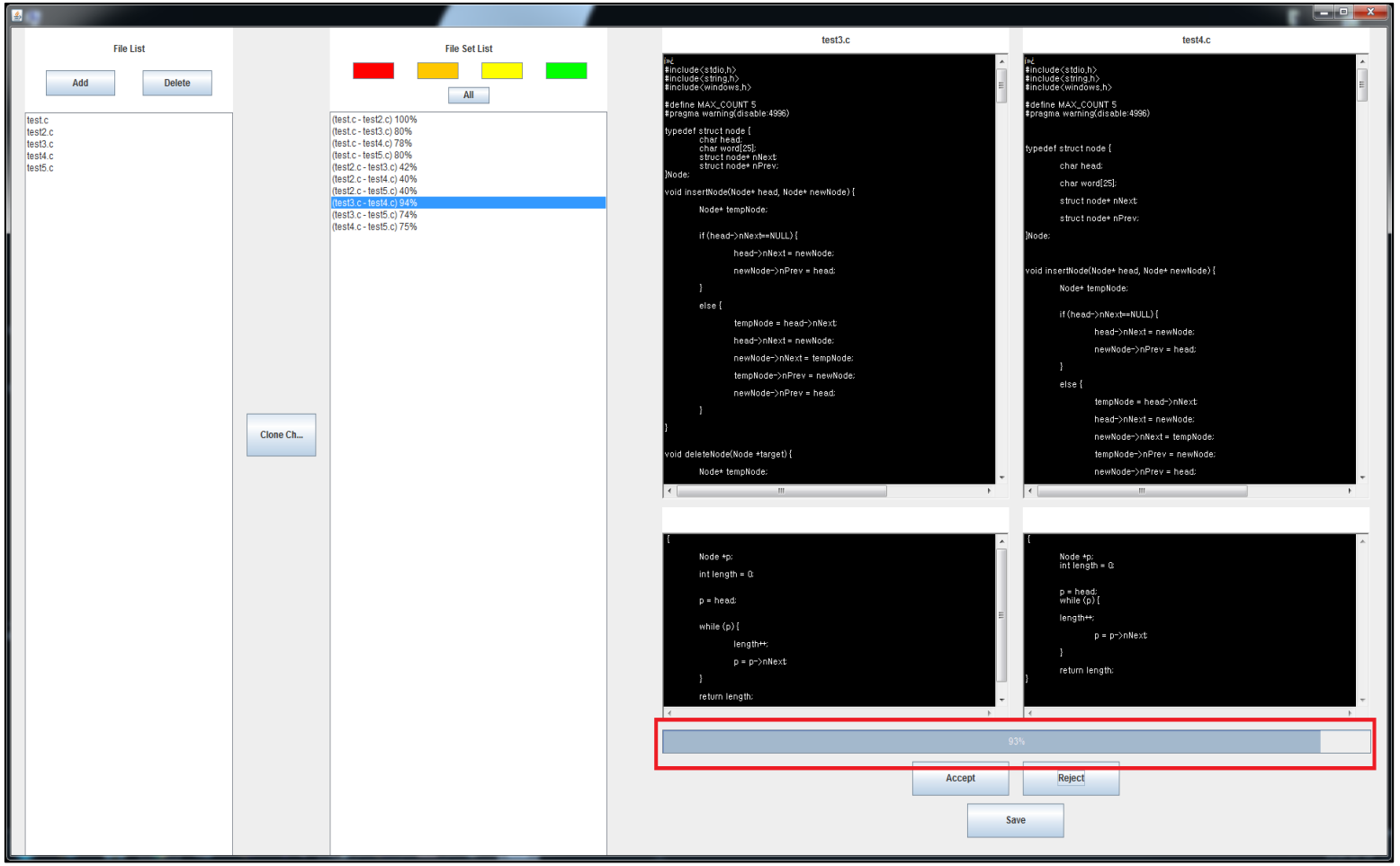
7 프로그램 설명

여섯번째 화면



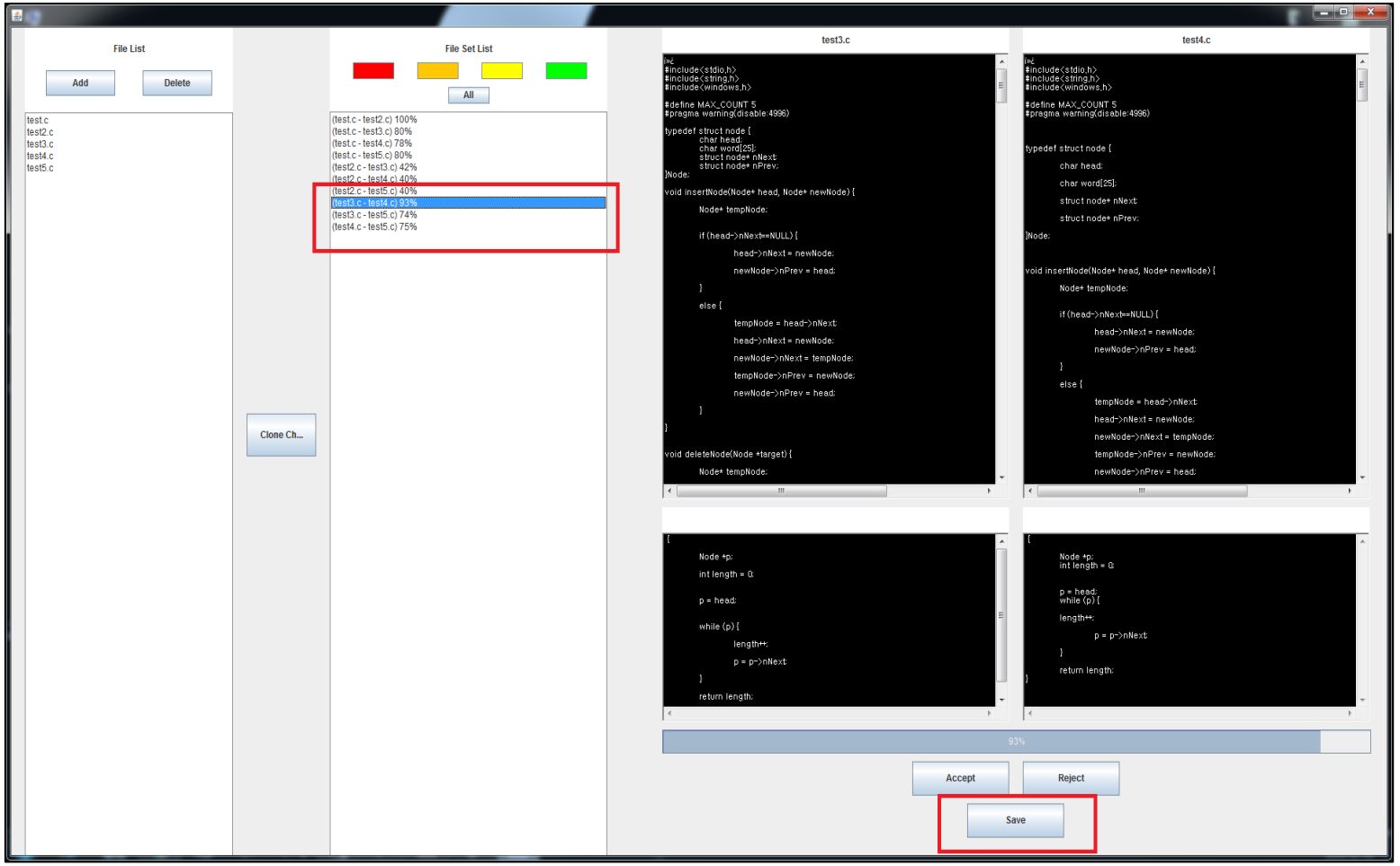
7 프로그램 설명

일곱번째 화면



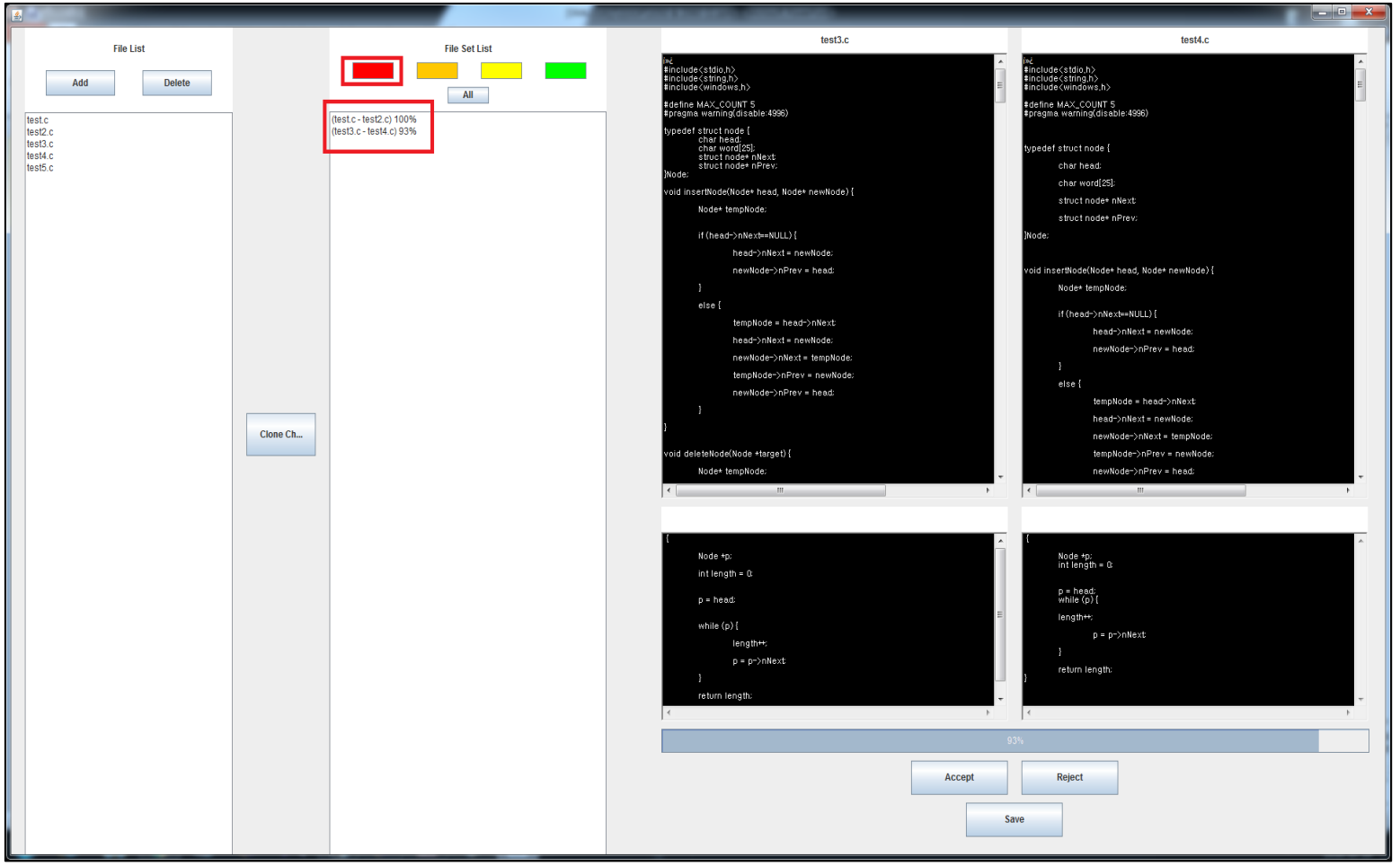
7 프로그램 설명

여덟번째 화면



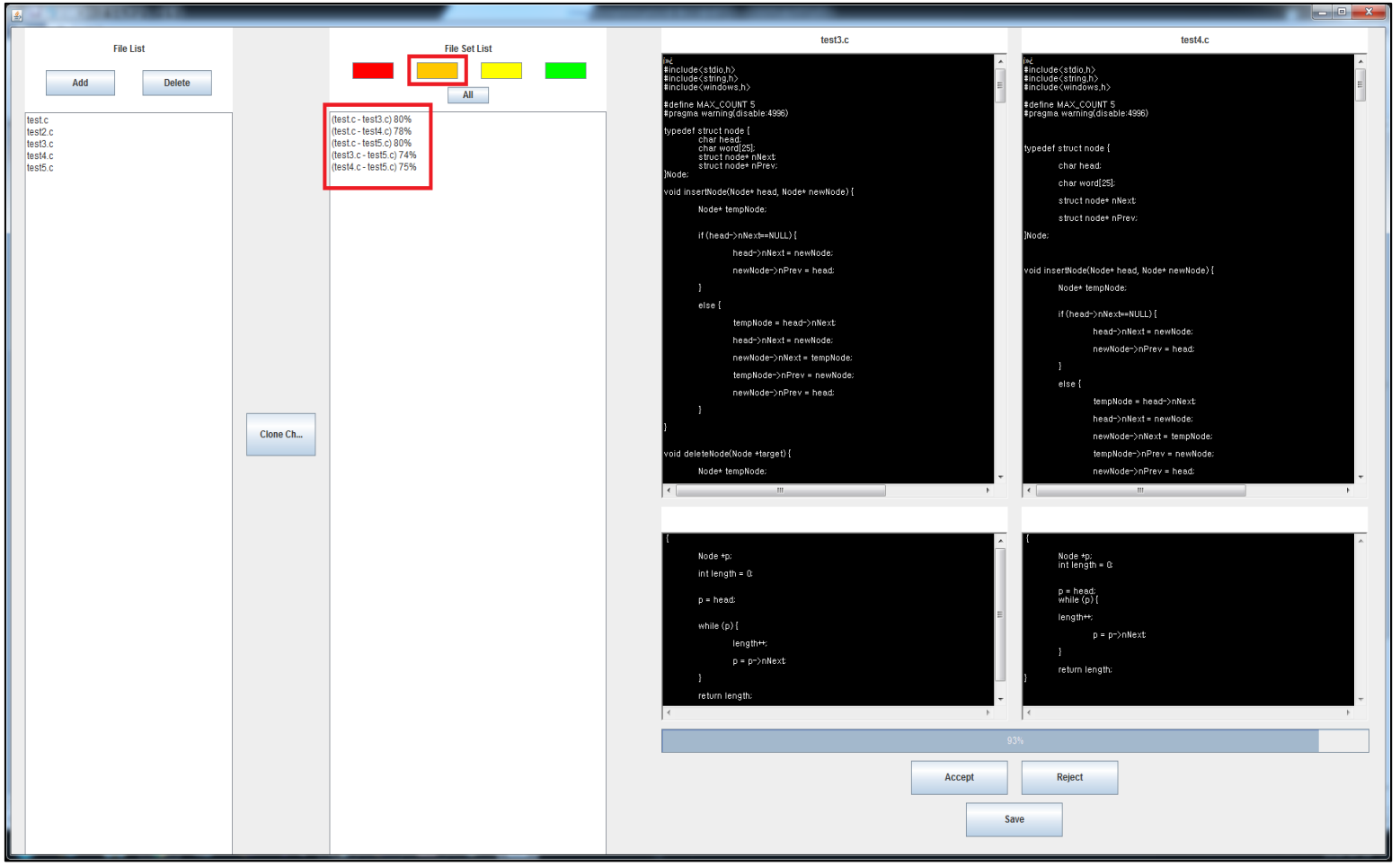
7 프로그램 설명

아홉번째 화면



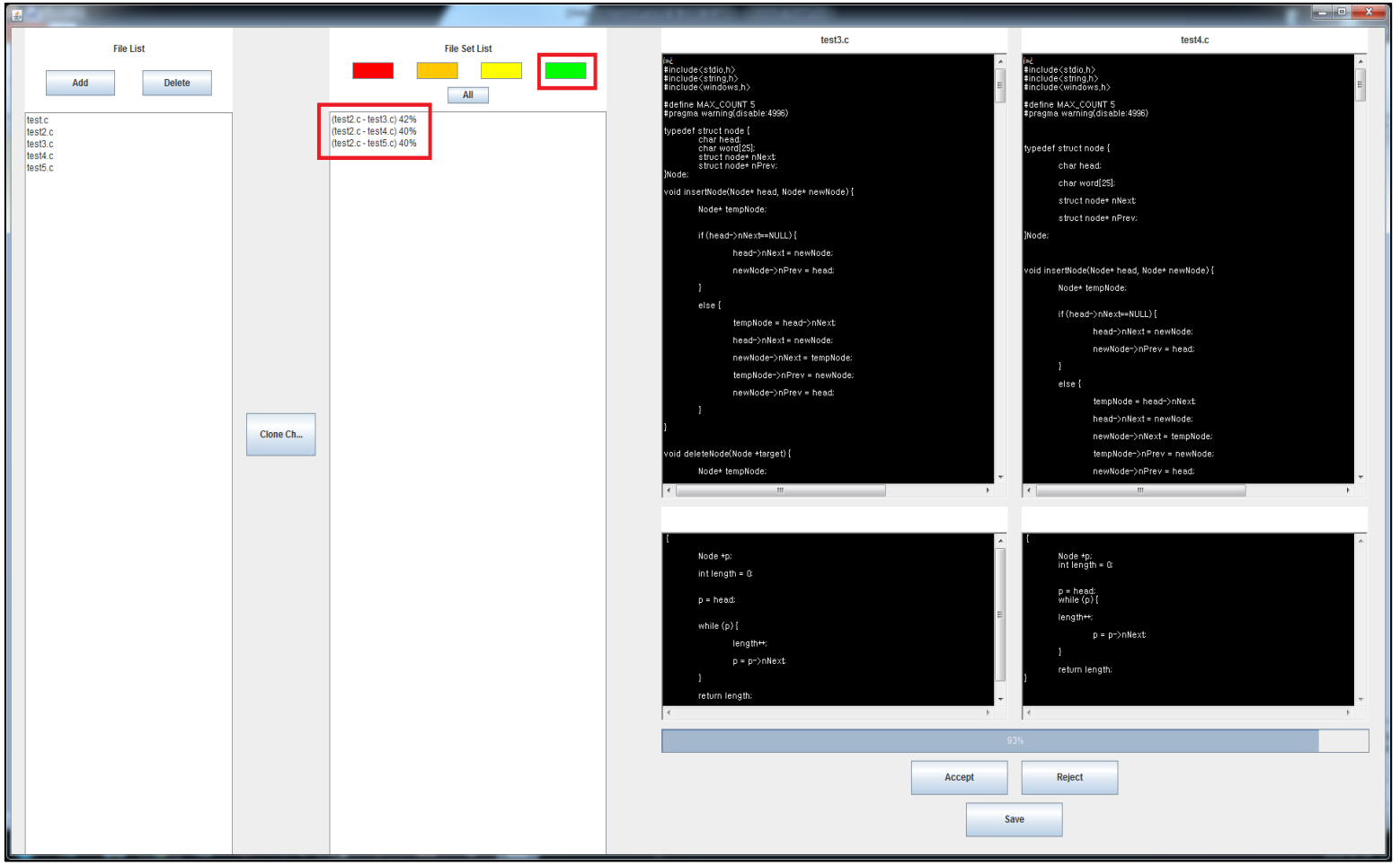
7 프로그램 설명

열번째 화면



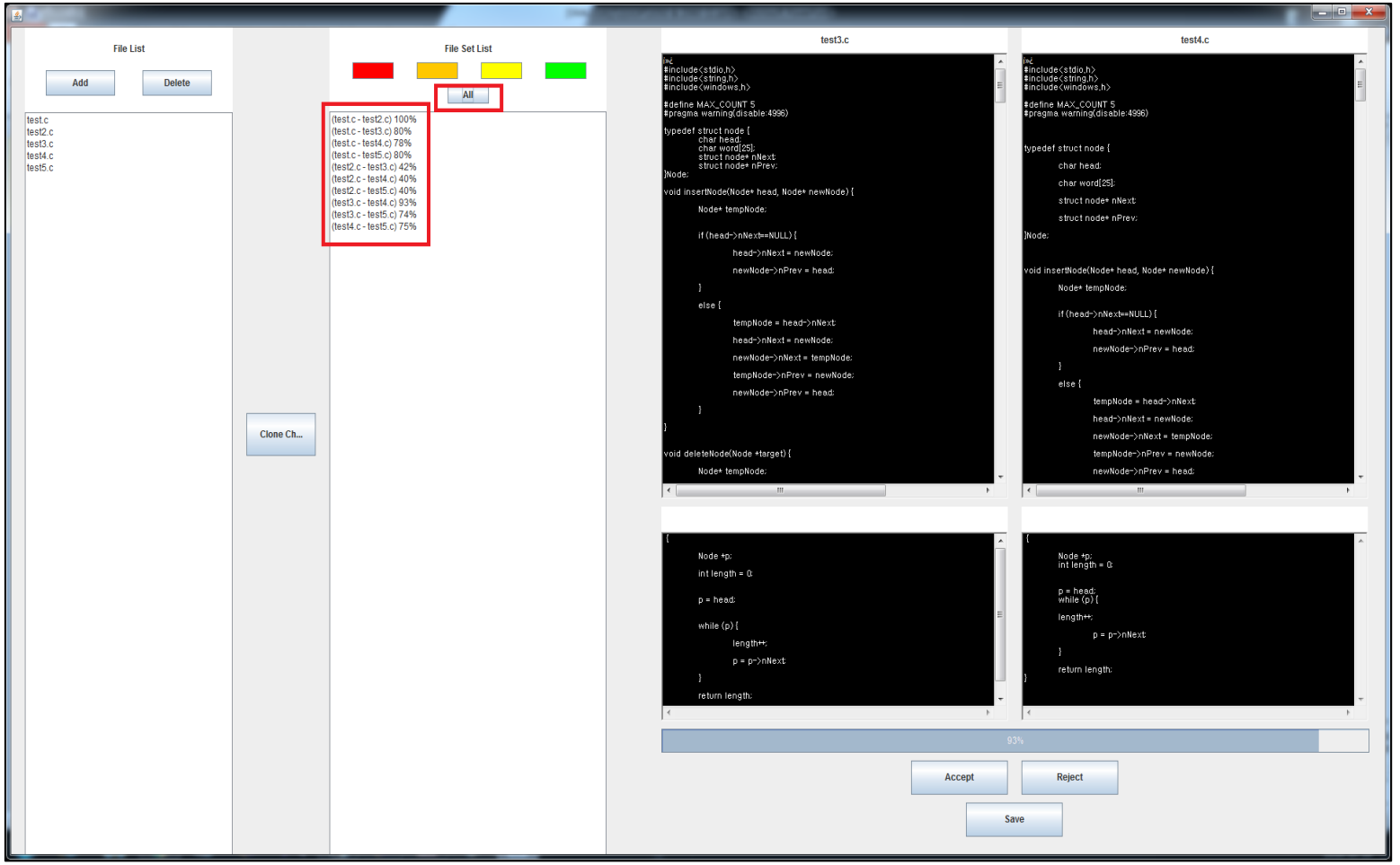
7 프로그램 설명

열한번째 화면



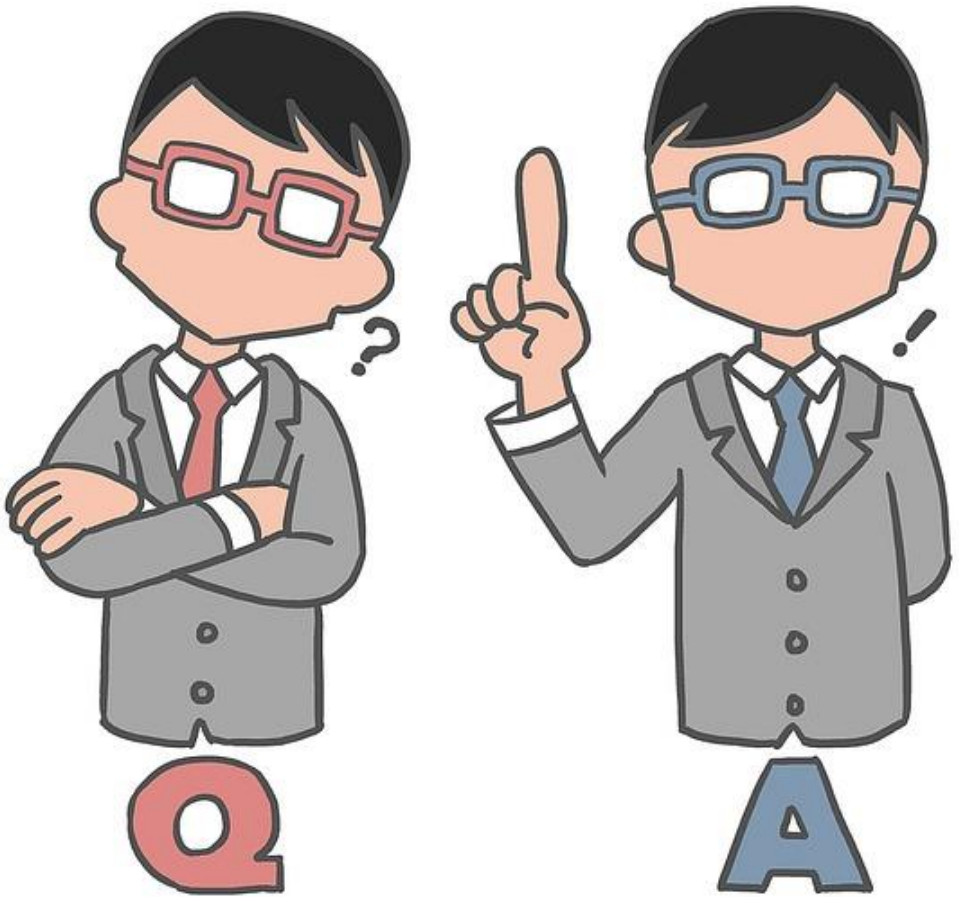
7 프로그램 설명

열두번째 화면



8 프로그램 데모 영상

데모영상


Q
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