

Static Analysis Report

1st

Project Team

Team 2

Latest update on:

2018-06-03

Team Information

201211337 김재현

201211354 성현구

201211369 이병찬

201211387 하현규

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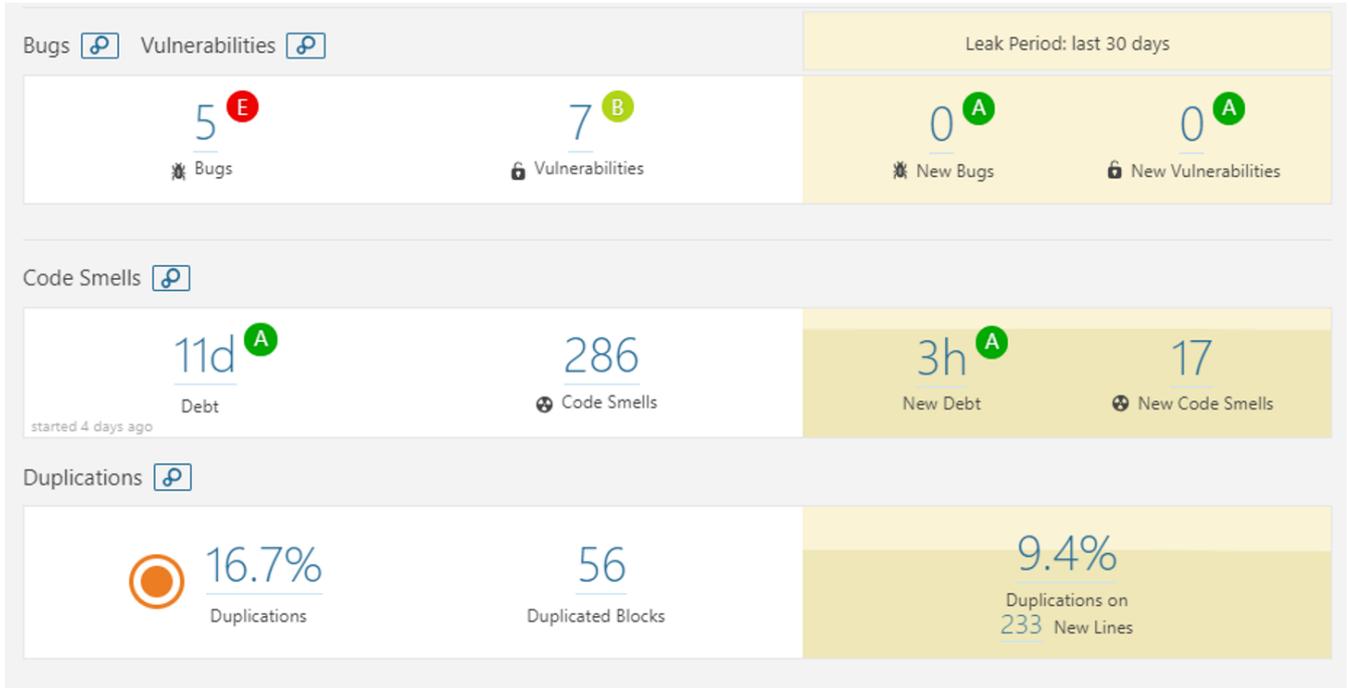
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1. Sonar Cloud.

1.1. URL

<https://sonarcloud.io/dashboard?id=com.swad.cppatm%3Acppatm>

1.2. Summary



1.3. Bugs

src/.../com/swad/cppatm/application/DataStore.java

<input type="checkbox"/>	Use try-with-resources or close this "BufferedWriter" in a "finally" clause. ...	4 days ago	L43	cert, cwe, denial-of-service, leak
<input type="checkbox"/>	Use try-with-resources or close this "BufferedWriter" in a "finally" clause. ...	4 days ago	L79	cert, cwe, denial-of-service, leak
<input type="checkbox"/>	Use try-with-resources or close this "BufferedReader" in a "finally" clause. ...	4 days ago	L93	cert, cwe, denial-of-service, leak
<input type="checkbox"/>	Use try-with-resources or close this "OutputStreamWriter" in a "finally" clause. ...	4 days ago	L110	cert, cwe, denial-of-service, leak
<input type="checkbox"/>	Use try-with-resources or close this "BufferedWriter" in a "finally" clause. ...	4 days ago	L111	cert, cwe, denial-of-service, leak

5 of 5 shown

1.4. Vulnerability

src/main/java/com/swad/cppatm/Main.java

- Make userFrame a static final constant or non-public and provide accessors if needed.** ... 4 days ago ▾ L8 🔗 ⚙️
🔒 Vulnerability ▾ 🟢 Minor ▾ 🔵 Open ▾ ⚪ Not assigned ▾ 10min effort [Comment](#)
🔍 cwe ▾
- Make adminFrame a static final constant or non-public and provide accessors if needed.** ... 4 days ago ▾ L9 🔗 ⚙️
🔒 Vulnerability ▾ 🟢 Minor ▾ 🔵 Open ▾ ⚪ Not assigned ▾ 10min effort [Comment](#)
🔍 cwe ▾

src/.../java/com/swad/cppatm/enums/BillType.java

- Make this "public static wonSize" field final** ... 4 days ago ▾ L17 🔗 ⚙️
🔒 Vulnerability ▾ 🟢 Minor ▾ 🔵 Open ▾ ⚪ Not assigned ▾ 20min effort [Comment](#)
🔍 cert, cwe ▾
- Make wonSize a static final constant or non-public and provide accessors if needed.** ... 4 days ago ▾ L17 🔗 ⚙️
🔒 Vulnerability ▾ 🟢 Minor ▾ 🔵 Open ▾ ⚪ Not assigned ▾ 10min effort [Comment](#)
🔍 cwe ▾
- Make this "public static dollarSize" field final** ... 4 days ago ▾ L18 🔗 ⚙️
🔒 Vulnerability ▾ 🟢 Minor ▾ 🔵 Open ▾ ⚪ Not assigned ▾ 20min effort [Comment](#)
🔍 cert, cwe ▾
- Make dollarSize a static final constant or non-public and provide accessors if needed.** ... 4 days ago ▾ L18 🔗 ⚙️
🔒 Vulnerability ▾ 🟢 Minor ▾ 🔵 Open ▾ ⚪ Not assigned ▾ 10min effort [Comment](#)
🔍 cwe ▾

src/main/java/com/swad/cppatm/ui/EnterBill.java

- Use a logger to log this exception.** ... 4 days ago ▾ L79 🔗 ⚙️
🔒 Vulnerability ▾ 🟢 Minor ▾ 🔵 Open ▾ ⚪ Not assigned ▾ 10min effort [Comment](#)
🔍 error-handling ▾

7 of 7 shown

1.5. Code Smells

src/.../com/swad/cppatm/application/ATMSys...java

<input type="checkbox"/>	4 duplicated blocks of code must be removed. ...	4 days ago	pitfall
<input type="checkbox"/>	Remove this unused import 'java.util.function.Function'. ...	4 days ago	unused
<input type="checkbox"/>	Refactor this method to reduce its Cognitive Complexity from 33 to the 15 allowed. ...	4 days ago	brain-overload
<input type="checkbox"/>	This case's code block is the same as the block for the case on line 142. ...	4 days ago	design, suspicious
<input type="checkbox"/>	Either remove or fill this block of code. ...	4 days ago	suspicious
<input type="checkbox"/>	Complete cases by adding the missing enum constants or add a default case to this switch. ...	4 days ago	cert, cwe, misra
<input type="checkbox"/>	Either remove or fill this block of code. ...	4 days ago	suspicious
<input type="checkbox"/>	This branch's code block is the same as the block for the branch on line 273. ...	4 days ago	design, suspicious
<input type="checkbox"/>	Define a constant instead of duplicating this literal "Alter to admin" 4 times. ...	4 days ago	design
<input type="checkbox"/>	Replace this use of System.out or System.err by a logger. ...	4 days ago	bad-practice, cert
<input type="checkbox"/>	This block of commented-out lines of code should be removed. ...	4 days ago	misra, unused
<input type="checkbox"/>	Define a constant instead of duplicating this literal "Export Bills :" 4 times. ...	4 days ago	design
<input type="checkbox"/>	Replace this use of System.out or System.err by a logger. ...	4 days ago	bad-practice, cert
<input type="checkbox"/>	Replace this use of System.out or System.err by a logger. ...	4 days ago	bad-practice, cert

<input type="checkbox"/>	Replace this use of System.out or System.err by a logger. ...	4 days ago	L297			
	Code Smell Major Open Not assigned 10min effort Comment					bad-practice, cert
<input type="checkbox"/>	This branch's code block is the same as the block for the branch on line 313. ...	4 days ago	L317			
	Code Smell Major Open Not assigned 10min effort Comment					design, suspicious
<input type="checkbox"/>	Replace this use of System.out or System.err by a logger. ...	4 days ago	L328			
	Code Smell Major Open Not assigned 10min effort Comment					bad-practice, cert
<input type="checkbox"/>	Replace this use of System.out or System.err by a logger. ...	4 days ago	L336			
	Code Smell Major Open Not assigned 10min effort Comment					bad-practice, cert
<input type="checkbox"/>	Replace this use of System.out or System.err by a logger. ...	4 days ago	L339			
	Code Smell Major Open Not assigned 10min effort Comment					bad-practice, cert
<input type="checkbox"/>	Replace this use of System.out or System.err by a logger. ...	4 days ago	L341			
	Code Smell Major Open Not assigned 10min effort Comment					bad-practice, cert
<input type="checkbox"/>	Replace this use of System.out or System.err by a logger. ...	4 days ago	L343			
	Code Smell Major Open Not assigned 10min effort Comment					bad-practice, cert
<input type="checkbox"/>	Add logic to this catch clause or eliminate it and rethrow the exception automatically. ...	4 days ago	L378			
	Code Smell Minor Open Not assigned 5min effort Comment					clumsy, finding, unused
<input type="checkbox"/>	Replace this use of System.out or System.err by a logger. ...	4 days ago	L399			
	Code Smell Major Open Not assigned 10min effort Comment					bad-practice, cert
<input type="checkbox"/>	This block of commented-out lines of code should be removed. ...	4 days ago	L400			
	Code Smell Major Open Not assigned 5min effort Comment					misra, unused
<input type="checkbox"/>	Replace this use of System.out or System.err by a logger. ...	4 days ago	L421			
	Code Smell Major Open Not assigned 10min effort Comment					bad-practice, cert
<input type="checkbox"/>	Replace this use of System.out or System.err by a logger. ...	4 days ago	L423			
	Code Smell Major Open Not assigned 10min effort Comment					bad-practice, cert
<input type="checkbox"/>	Replace this use of System.out or System.err by a logger. ...	4 days ago	L425			
	Code Smell Major Open Not assigned 10min effort Comment					bad-practice, cert
<input type="checkbox"/>	Replace this use of System.out or System.err by a logger. ...	4 days ago	L436			
	Code Smell Major Open Not assigned 10min effort Comment					bad-practice, cert
<input type="checkbox"/>	This block of commented-out lines of code should be removed. ...	4 days ago	L437			
	Code Smell Major Open Not assigned 5min effort Comment					misra, unused

<input type="checkbox"/>	Replace this use of System.out or System.err by a logger. ...	4 days ago	L458	Code Smell	Major	Open	Not assigned	10min effort	Comment	bad-practice, cert
<input type="checkbox"/>	Replace this use of System.out or System.err by a logger. ...	4 days ago	L460	Code Smell	Major	Open	Not assigned	10min effort	Comment	bad-practice, cert
<input type="checkbox"/>	Replace this use of System.out or System.err by a logger. ...	4 days ago	L462	Code Smell	Major	Open	Not assigned	10min effort	Comment	bad-practice, cert
<input type="checkbox"/>	Return an empty array instead of null. ...	4 days ago	L491	Code Smell	Major	Open	Not assigned	30min effort	Comment	cert
<input type="checkbox"/>	Either remove or fill this block of code. ...	4 days ago	L510	Code Smell	Major	Open	Not assigned	5min effort	Comment	suspicious
<input type="checkbox"/>	Replace this use of System.out or System.err by a logger. ...	4 days ago	L561	Code Smell	Major	Open	Not assigned	10min effort	Comment	bad-practice, cert
<input type="checkbox"/>	Remove the declaration of thrown exception 'com.swad.cppatm.exceptions.DataStoreError', as it cannot be thrown from method's body. ...	4 days ago	L569	Code Smell	Minor	Open	Not assigned	5min effort	Comment	clumsy, redundant, unused
<input type="checkbox"/>	Replace this use of System.out or System.err by a logger. ...	4 days ago	L576	Code Smell	Major	Open	Not assigned	10min effort	Comment	bad-practice, cert
<input type="checkbox"/>	Use isEmpty() to check whether the collection is empty or not. ...	4 days ago	L614	Code Smell	Minor	Open	Not assigned	2min effort	Comment	clumsy

src/.../com/swad/cppatm/application/Account.java

<input type="checkbox"/>	Remove the "transient" modifier from this field. ...	4 days ago	L21	Code Smell	Minor	Open	Not assigned	2min effort	Comment	serialization, unused
<input type="checkbox"/>	Either remove or fill this block of code. ...	4 days ago	L142	Code Smell	Major	Open	Not assigned	5min effort	Comment	suspicious
<input type="checkbox"/>	The return type of this method should be an interface such as "List" rather than the implementation "ArrayList". ...	4 days ago	L154	Code Smell	Minor	Open	Not assigned	10min effort	Comment	bad-practice

src/.../com/swad/cppatm/application/Admin.java

<input type="checkbox"/>	Remove this unused import 'com.swad.cppatm.exceptions.InvalidAdminException'. ...	4 days ago	L3	Code Smell	Minor	Open	Not assigned	2min effort	Comment	unused
<input type="checkbox"/>	Remove this unused import 'java.util.regex.Pattern'. ...	4 days ago	L5	Code Smell	Minor	Open	Not assigned	2min effort	Comment	unused
<input type="checkbox"/>	Replace this if-then-else statement by a single return statement. ...	4 days ago	L31	Code Smell	Minor	Open	Not assigned	2min effort	Comment	clumsy

src/.../com/swad/cppatm/application/DataStore.java

<input type="checkbox"/>	Define a constant instead of duplicating this literal "json" 4 times. ...	4 days ago	L23	Code Smell	Critical	Open	Not assigned	10min effort	Comment	design
<input type="checkbox"/>	The return type of this method should be an interface such as "List" rather than the implementation "ArrayList". ...	4 days ago	L88	Code Smell	Minor	Open	Not assigned	10min effort	Comment	bad-practice
<input type="checkbox"/>	The type of the "admins" object should be an interface such as "List" rather than the implementation "ArrayList". ...	4 days ago	L103	Code Smell	Minor	Open	Not assigned	10min effort	Comment	bad-practice

src/.../com/swad/cppatm/application/Lottery.java

Either remove or fill this block of code. ... 4 days ago ▾ L50 🔗 ⌵
🔍 Code Smell ▾ 🚨 Major ▾ 🔵 Open ▾ Not assigned ▾ 5min effort Comment 🧠 suspicious ▾

src/.../com/swad/cppatm/application/Transaction.java

Remove the "transient" modifier from this field. ... 4 days ago ▾ L12 🔗 ⌵
🔍 Code Smell ▾ 🟢 Minor ▾ 🔵 Open ▾ Not assigned ▾ 2min effort Comment 🧠 serialization, unused ▾

src/.../com/swad/cppatm/application/User.java

Replace the type specification in this constructor call with the diamond operator ("<>"). ... 4 days ago ▾ L11 🔗 ⌵
🔍 Code Smell ▾ 🟢 Minor ▾ 🔵 Open ▾ Not assigned ▾ 1min effort Comment 🧠 clumsy ▾

Remove the "transient" modifier from this field. ... 4 days ago ▾ L12 🔗 ⌵
🔍 Code Smell ▾ 🟢 Minor ▾ 🔵 Open ▾ Not assigned ▾ 2min effort Comment 🧠 serialization, unused ▾

src/.../java/com/swad/cppatm/enums/BillType.java

Rename this constant name to match the regular expression '^ [A-Z][A-Z0-9]*_[A-Z0-9]+)'\$'. ... 4 days ago ▾ L4 🔗 ⌵
🔍 Code Smell ▾ 🚨 Critical ▾ 🔵 Open ▾ Not assigned ▾ 2min effort Comment 🧠 convention ▾

Rename this constant name to match the regular expression '^ [A-Z][A-Z0-9]*_[A-Z0-9]+)'\$'. ... 4 days ago ▾ L4 🔗 ⌵
🔍 Code Smell ▾ 🚨 Critical ▾ 🔵 Open ▾ Not assigned ▾ 2min effort Comment 🧠 convention ▾

Rename this constant name to match the regular expression '^ [A-Z][A-Z0-9]*_[A-Z0-9]+)'\$'. ... 4 days ago ▾ L4 🔗 ⌵
🔍 Code Smell ▾ 🚨 Critical ▾ 🔵 Open ▾ Not assigned ▾ 2min effort Comment 🧠 convention ▾

Rename this constant name to match the regular expression '^ [A-Z][A-Z0-9]*_[A-Z0-9]+)'\$'. ... 4 days ago ▾ L4 🔗 ⌵
🔍 Code Smell ▾ 🚨 Critical ▾ 🔵 Open ▾ Not assigned ▾ 2min effort Comment 🧠 convention ▾

Rename this constant name to match the regular expression '^ [A-Z][A-Z0-9]*_[A-Z0-9]+)'\$'. ... 4 days ago ▾ L5 🔗 ⌵
🔍 Code Smell ▾ 🚨 Critical ▾ 🔵 Open ▾ Not assigned ▾ 2min effort Comment 🧠 convention ▾

Rename this constant name to match the regular expression '^ [A-Z][A-Z0-9]*_[A-Z0-9]+)'\$'. ... 4 days ago ▾ L5 🔗 ⌵
🔍 Code Smell ▾ 🚨 Critical ▾ 🔵 Open ▾ Not assigned ▾ 2min effort Comment 🧠 convention ▾

Rename this constant name to match the regular expression '^ [A-Z][A-Z0-9]*_[A-Z0-9]+)'\$'. ... 4 days ago ▾ L5 🔗 ⌵
🔍 Code Smell ▾ 🚨 Critical ▾ 🔵 Open ▾ Not assigned ▾ 2min effort Comment 🧠 convention ▾

Rename this constant name to match the regular expression '^ [A-Z][A-Z0-9]*_[A-Z0-9]+)'\$'. ... 4 days ago ▾ L5 🔗 ⌵
🔍 Code Smell ▾ 🚨 Critical ▾ 🔵 Open ▾ Not assigned ▾ 2min effort Comment 🧠 convention ▾

Rename this constant name to match the regular expression '^ [A-Z][A-Z0-9]*_[A-Z0-9]+)'\$'. ... 4 days ago ▾ L5 🔗 ⌵
🔍 Code Smell ▾ 🚨 Critical ▾ 🔵 Open ▾ Not assigned ▾ 2min effort Comment 🧠 convention ▾

Rename this constant name to match the regular expression '^ [A-Z][A-Z0-9]*_[A-Z0-9]+)'\$'. ... 4 days ago ▾ L5 🔗 ⌵
🔍 Code Smell ▾ 🚨 Critical ▾ 🔵 Open ▾ Not assigned ▾ 2min effort Comment 🧠 convention ▾

Rename this constant name to match the regular expression '^ [A-Z][A-Z0-9]*_[A-Z0-9]+)'\$'. ... 4 days ago ▾ L5 🔗 ⌵
🔍 Code Smell ▾ 🚨 Critical ▾ 🔵 Open ▾ Not assigned ▾ 2min effort Comment 🧠 convention ▾

src/.../java/com/swad/cppatm/enums/FunctionType.java

<input type="checkbox"/>	Rename this constant name to match the regular expression <code>^[A-Z][A-Z0-9]*([A-Z0-9]+)*\$!</code>	4 days ago	L4		
	Code Smell		Critical		Open
	Not assigned	2min effort	Comment		convention
<input type="checkbox"/>	Rename this constant name to match the regular expression <code>^[A-Z][A-Z0-9]*([A-Z0-9]+)*\$!</code>	4 days ago	L5		
	Code Smell		Critical		Open
	Not assigned	2min effort	Comment		convention
<input type="checkbox"/>	Rename this constant name to match the regular expression <code>^[A-Z][A-Z0-9]*([A-Z0-9]+)*\$!</code>	4 days ago	L6		
	Code Smell		Critical		Open
	Not assigned	2min effort	Comment		convention
<input type="checkbox"/>	Rename this constant name to match the regular expression <code>^[A-Z][A-Z0-9]*([A-Z0-9]+)*\$!</code>	4 days ago	L7		
	Code Smell		Critical		Open
	Not assigned	2min effort	Comment		convention
<input type="checkbox"/>	Rename this constant name to match the regular expression <code>^[A-Z][A-Z0-9]*([A-Z0-9]+)*\$!</code>	4 days ago	L8		
	Code Smell		Critical		Open
	Not assigned	2min effort	Comment		convention
<input type="checkbox"/>	Rename this constant name to match the regular expression <code>^[A-Z][A-Z0-9]*([A-Z0-9]+)*\$!</code>	4 days ago	L9		
	Code Smell		Critical		Open
	Not assigned	2min effort	Comment		convention
<input type="checkbox"/>	Rename this constant name to match the regular expression <code>^[A-Z][A-Z0-9]*([A-Z0-9]+)*\$!</code>	4 days ago	L10		
	Code Smell		Critical		Open
	Not assigned	2min effort	Comment		convention
<input type="checkbox"/>	Rename this constant name to match the regular expression <code>^[A-Z][A-Z0-9]*([A-Z0-9]+)*\$!</code>	4 days ago	L11		
	Code Smell		Critical		Open
	Not assigned	2min effort	Comment		convention
<input type="checkbox"/>	Rename this constant name to match the regular expression <code>^[A-Z][A-Z0-9]*([A-Z0-9]+)*\$!</code>	4 days ago	L12		
	Code Smell		Critical		Open
	Not assigned	2min effort	Comment		convention
<input type="checkbox"/>	Rename this constant name to match the regular expression <code>^[A-Z][A-Z0-9]*([A-Z0-9]+)*\$!</code>	4 days ago	L13		
	Code Smell		Critical		Open
	Not assigned	2min effort	Comment		convention
<input type="checkbox"/>	Rename this constant name to match the regular expression <code>^[A-Z][A-Z0-9]*([A-Z0-9]+)*\$!</code>	4 days ago	L14		
	Code Smell		Critical		Open
	Not assigned	2min effort	Comment		convention
<input type="checkbox"/>	Rename this constant name to match the regular expression <code>^[A-Z][A-Z0-9]*([A-Z0-9]+)*\$!</code>	4 days ago	L16		
	Code Smell		Critical		Open
	Not assigned	2min effort	Comment		convention
<input type="checkbox"/>	Rename this constant name to match the regular expression <code>^[A-Z][A-Z0-9]*([A-Z0-9]+)*\$!</code>	4 days ago	L17		
	Code Smell		Critical		Open
	Not assigned	2min effort	Comment		convention
<input type="checkbox"/>	Rename this constant name to match the regular expression <code>^[A-Z][A-Z0-9]*([A-Z0-9]+)*\$!</code>	4 days ago	L18		
	Code Smell		Critical		Open
	Not assigned	2min effort	Comment		convention
<input type="checkbox"/>	Rename this constant name to match the regular expression <code>^[A-Z][A-Z0-9]*([A-Z0-9]+)*\$!</code>	4 days ago	L19		
	Code Smell		Critical		Open
	Not assigned	2min effort	Comment		convention
<input type="checkbox"/>	Rename this constant name to match the regular expression <code>^[A-Z][A-Z0-9]*([A-Z0-9]+)*\$!</code>	4 days ago	L20		
	Code Smell		Critical		Open
	Not assigned	2min effort	Comment		convention

src/.../java/com/swad/cppatm/enums/Locale.java

<input type="checkbox"/>	Rename this constant name to match the regular expression <code>^[A-Z][A-Z0-9]*([A-Z0-9]+)*\$!</code>	4 days ago	L4		
	Code Smell		Critical		Open
	Not assigned	2min effort	Comment		convention
<input type="checkbox"/>	Rename this constant name to match the regular expression <code>^[A-Z][A-Z0-9]*([A-Z0-9]+)*\$!</code>	4 days ago	L5		
	Code Smell		Critical		Open
	Not assigned	2min effort	Comment		convention

src/.../java/com/swad/cppatm/enums/TransactionType.java

- Rename this constant name to match the regular expression `'^[A-Z][A-Z0-9]*_[A-Z0-9]+*$'`. 4 days ago ▾ L4 🔗 ⌵
🔗 Code Smell ▾ 🔴 Critical ▾ 🔵 Open ▾ Not assigned ▾ 2min effort Comment 🔗 convention ▾
- Rename this constant name to match the regular expression `'^[A-Z][A-Z0-9]*_[A-Z0-9]+*$'`. 4 days ago ▾ L5 🔗 ⌵
🔗 Code Smell ▾ 🔴 Critical ▾ 🔵 Open ▾ Not assigned ▾ 2min effort Comment 🔗 convention ▾
- Rename this constant name to match the regular expression `'^[A-Z][A-Z0-9]*_[A-Z0-9]+*$'`. 4 days ago ▾ L6 🔗 ⌵
🔗 Code Smell ▾ 🔴 Critical ▾ 🔵 Open ▾ Not assigned ▾ 2min effort Comment 🔗 convention ▾
- Rename this constant name to match the regular expression `'^[A-Z][A-Z0-9]*_[A-Z0-9]+*$'`. 4 days ago ▾ L7 🔗 ⌵
🔗 Code Smell ▾ 🔴 Critical ▾ 🔵 Open ▾ Not assigned ▾ 2min effort Comment 🔗 convention ▾
- Rename this constant name to match the regular expression `'^[A-Z][A-Z0-9]*_[A-Z0-9]+*$'`. 4 days ago ▾ L8 🔗 ⌵
🔗 Code Smell ▾ 🔴 Critical ▾ 🔵 Open ▾ Not assigned ▾ 2min effort Comment 🔗 convention ▾
- Rename this constant name to match the regular expression `'^[A-Z][A-Z0-9]*_[A-Z0-9]+*$'`. 4 days ago ▾ L9 🔗 ⌵
🔗 Code Smell ▾ 🔴 Critical ▾ 🔵 Open ▾ Not assigned ▾ 2min effort Comment 🔗 convention ▾

src/.../com/swad/cppatm/exceptions/MultipleFunctionsExecuted.java

- Add a nested comment explaining why this method is empty, throw an `UnsupportedOperationException` or complete the implementation. 4 days ago ▾ L4 🔗 ⌵
🔗 Code Smell ▾ 🔴 Critical ▾ 🔵 Open ▾ Not assigned ▾ 5min effort Comment 🔗 suspicious ▾

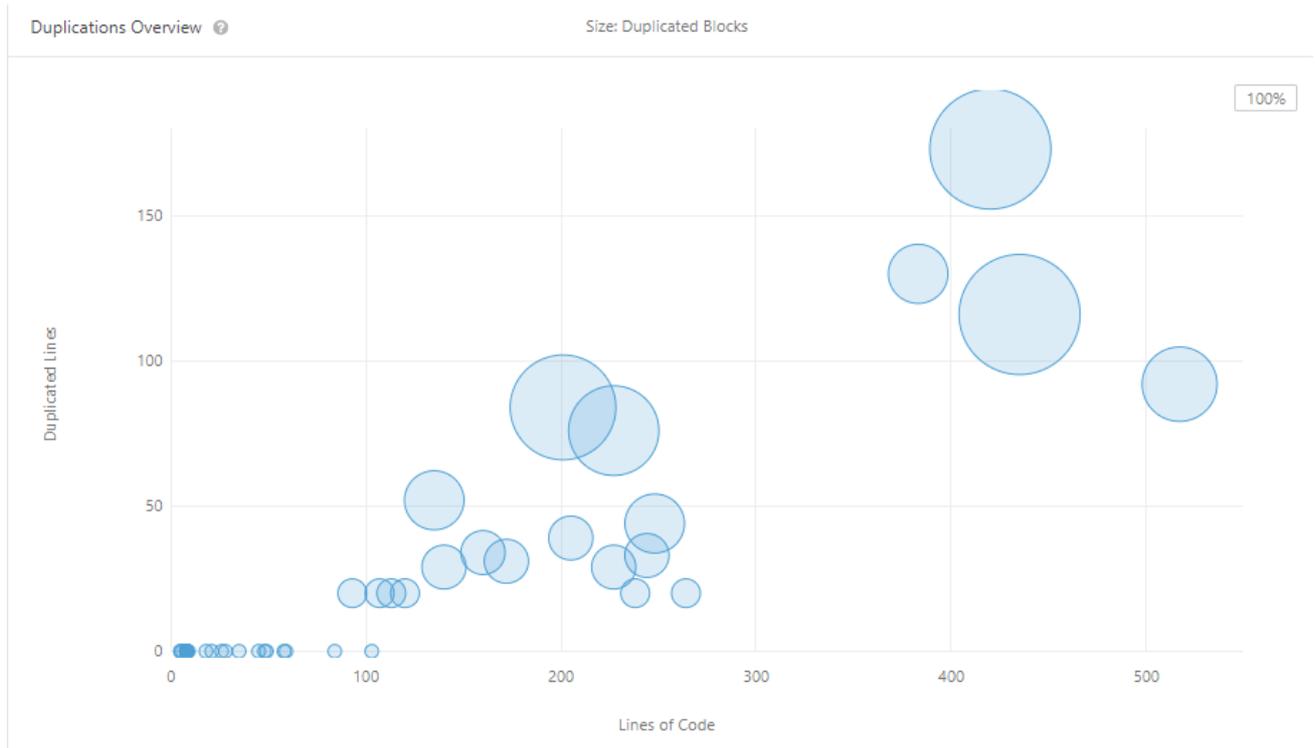
src/main/java/com/swad/cppatm/ui/AdminSelectFunction.java

- 2 duplicated blocks of code must be removed. 4 days ago ▾ 🔗 ⌵
🔗 Code Smell ▾ 🔴 Major ▾ 🔵 Open ▾ Not assigned ▾ 30min effort Comment 🔗 pitfall ▾
- Remove this unused import `'java.util.Arrays'`. 4 days ago ▾ L15 🔗 ⌵
🔗 Code Smell ▾ 🟢 Minor ▾ 🔵 Open ▾ Not assigned ▾ 2min effort Comment 🔗 unused ▾
- This class has 6 parents which is greater than 5 authorized. 4 days ago ▾ L17 🔗 ⌵
🔗 Code Smell ▾ 🔴 Major ▾ 🔵 Open ▾ Not assigned ▾ 4h30min effort Comment 🔗 design ▾
- Move the contents of this initializer to a standard constructor or to field initializers. 4 days ago ▾ L162 🔗 ⌵
🔗 Code Smell ▾ 🔴 Major ▾ 🔵 Open ▾ Not assigned ▾ 30min effort Comment 🔗 pitfall ▾
- Rename this method name to match the regular expression `'^[a-z][a-zA-Z0-9]*$'`. 4 days ago ▾ L176 🔗 ⌵
🔗 Code Smell ▾ 🟢 Minor ▾ 🔵 Open ▾ Not assigned ▾ 5min effort Comment 🔗 convention ▾
- Rename this method name to match the regular expression `'^[a-z][a-zA-Z0-9]*$'`. 4 days ago ▾ L247 🔗 ⌵
🔗 Code Smell ▾ 🟢 Minor ▾ 🔵 Open ▾ Not assigned ▾ 5min effort Comment 🔗 convention ▾
- Rename this method name to match the regular expression `'^[a-z][a-zA-Z0-9]*$'`. 4 days ago ▾ L266 🔗 ⌵
🔗 Code Smell ▾ 🟢 Minor ▾ 🔵 Open ▾ Not assigned ▾ 5min effort Comment 🔗 convention ▾

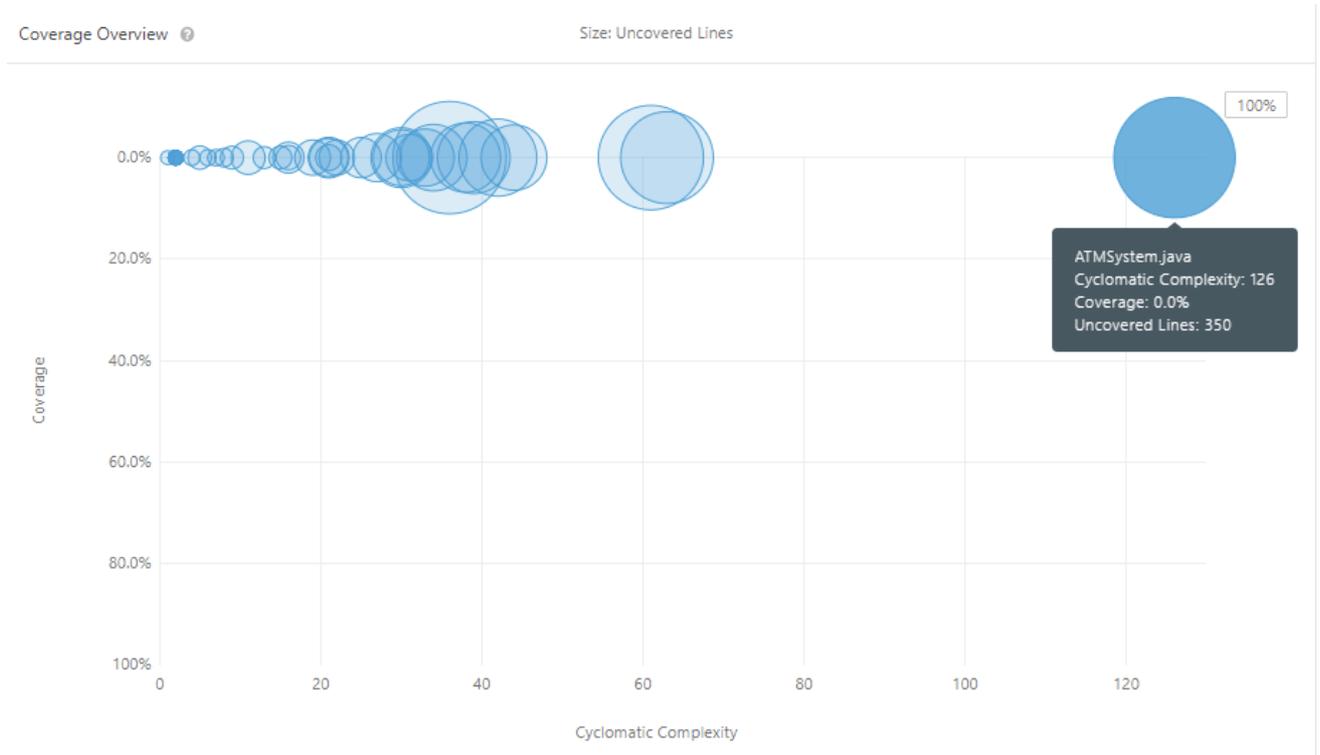
src/main/java/com/swad/cppatm/ui/AuthorizeAdmin.java

- 2 duplicated blocks of code must be removed. *** 4 days ago pitfall
Code Smell Major Open Not assigned 30min effort Comment
- This class has 6 parents which is greater than 5 authorized. *** 4 days ago L18 design
Code Smell Major Open Not assigned 4h30min effort Comment
- Add a default case to this switch. *** 4 days ago L77 cert, cwe, misra
Code Smell Critical Open Not assigned 5min effort Comment
- Replace this "switch" statement by "if" statements to increase readability. *** 4 days ago L77 bad-practice, misra
Code Smell Minor Open Not assigned 5min effort Comment
- Move the contents of this initializer to a standard constructor or to field initializers. *** 4 days ago L89 pitfall
Code Smell Major Open Not assigned 30min effort Comment
- Rename this method name to match the regular expression '[a-z][a-zA-Z0-9]*\$'. *** 4 days ago L103 convention
Code Smell Minor Open Not assigned 5min effort Comment

1.6. Duplications



1.7. Cyclomatic Complexity



2. JDepend.

2.1. Summary

Summary [summary] [packages] [cycles] [explanations]

Package	Total Classes	Abstract Classes	Concrete Classes	Afferent Couplings	Efferent Couplings	Abstractness	Instability	Distance
com.swad.cppatm	1	0	1	1	1	5	0	0.83
com.swad.cppatm.application	10	0	10	10	2	8	0	0.8
com.swad.cppatm.enums	6	0	6	6	2	1	0	0.33
com.swad.cppatm.exceptions	15	0	15	15	2	1	0	0.33
com.swad.cppatm.ui	94	0	94	94	1	13	0	0.93
com.swad.cppatm.ui.components	1	0	1	1	1	3	0	0.75
com.google.gson	No stats available: package referenced, but not analyzed.							
com.google.gson.reflect	No stats available: package referenced, but not analyzed.							
com.intellij.uiDesigner.core	No stats available: package referenced, but not analyzed.							
java.awt	No stats available: package referenced, but not analyzed.							
java.awt.event	No stats available: package referenced, but not analyzed.							
java.io	No stats available: package referenced, but not analyzed.							
java.lang	No stats available: package referenced, but not analyzed.							
java.net	No stats available: package referenced, but not analyzed.							
java.text	No stats available: package referenced, but not analyzed.							
java.util	No stats available: package referenced, but not analyzed.							
javax.swing	No stats available: package referenced, but not analyzed.							

2.2. Packages

Packages [summary] [packages] [cycles] [explanations]

Package	Afferent Couplings	Efferent Couplings	Abstractness	Instability	Distance
com.swad.cppatm	1	5	0	0.83	0.17
Abstract Classes	None	Concrete Classes com.swad.cppatm.Main	Used by Packages com.swad.cppatm.ui	Uses Packages com.swad.cppatm.application com.swad.cppatm.ui java.io java.lang javax.swing	
com.swad.cppatm.application	2	8	0	0.8	0.2
Abstract Classes	None	Concrete Classes com.swad.cppatm.application.ATMSysSystemS1 com.swad.cppatm.application.Account com.swad.cppatm.application.Admin com.swad.cppatm.application.DataStore com.swad.cppatm.application.DataStoreS1 com.swad.cppatm.application.Lottery com.swad.cppatm.application.SystemBalance com.swad.cppatm.application.SystemState com.swad.cppatm.application.Transaction com.swad.cppatm.application.User	Used by Packages com.swad.cppatm com.swad.cppatm.ui	Uses Packages com.google.gson com.google.gson.reflect com.swad.cppatm.enums com.swad.cppatm.exceptions java.io java.lang java.net java.util	
com.swad.cppatm.enums	2	1	0	0.33	0.67
Abstract Classes	None	Concrete Classes com.swad.cppatm.enums.Bank com.swad.cppatm.enums.BillType com.swad.cppatm.enums.BillTypes1 com.swad.cppatm.enums.FunctionType com.swad.cppatm.enums.Locale com.swad.cppatm.enums.TransactionType	Used by Packages com.swad.cppatm.application com.swad.cppatm.ui	Uses Packages java.lang	
com.swad.cppatm.exceptions	2	1	0	0.33	0.67
Abstract Classes	None	Concrete Classes com.swad.cppatm.exceptions.AccountDoesNotExist com.swad.cppatm.exceptions.AdminAlarmException com.swad.cppatm.exceptions.DataStoreError com.swad.cppatm.exceptions.FrozenAccountException com.swad.cppatm.exceptions.InvalidAdminException com.swad.cppatm.exceptions.InvalidBillException com.swad.cppatm.exceptions.InvalidPasswordException com.swad.cppatm.exceptions.LotteryFailed com.swad.cppatm.exceptions.MultipleFunctionsExecuted com.swad.cppatm.exceptions.NegativeBalanceError com.swad.cppatm.exceptions.NoneOfFunctionSelected com.swad.cppatm.exceptions.OverflowBillException com.swad.cppatm.exceptions.SameAccountTransferException com.swad.cppatm.exceptions.TooFewUser com.swad.cppatm.exceptions.UserDoesNotExist	Used by Packages com.swad.cppatm.application com.swad.cppatm.ui	Uses Packages java.lang	

com.swad.cppatm.ui

Afferent Couplings: 1 Efferent Couplings: 13 Abstractness: 0 Instability: 0.93 Distance: 0.07

Abstract Classes	Concrete Classes	Used by Packages	Uses Packages
None	com.swad.cppatm.ui.AdminSelectFunction com.swad.cppatm.ui.AdminSelectFunction\$1 com.swad.cppatm.ui.AdminSelectFunction\$2 com.swad.cppatm.ui.AdminSelectFunction\$3 com.swad.cppatm.ui.AdminSelectFunction\$4 com.swad.cppatm.ui.AdminSelectFunction\$5 com.swad.cppatm.ui.AdminSelectFunction\$6 com.swad.cppatm.ui.AuthorizeAdmin com.swad.cppatm.ui.AuthorizeAdmin\$1 com.swad.cppatm.ui.AuthorizeAdmin\$2 com.swad.cppatm.ui.ChangeLocale com.swad.cppatm.ui.ChangeLocale\$1 com.swad.cppatm.ui.ChangeLocale\$2 com.swad.cppatm.ui.EnterATMBalance com.swad.cppatm.ui.EnterATMBalance\$1 com.swad.cppatm.ui.EnterATMBalance\$2 com.swad.cppatm.ui.EnterAdminInfo com.swad.cppatm.ui.EnterAdminInfo\$1 com.swad.cppatm.ui.EnterAdminInfo\$2 com.swad.cppatm.ui.EnterAdminInfo\$3 com.swad.cppatm.ui.EnterBill com.swad.cppatm.ui.EnterBill\$1 com.swad.cppatm.ui.EnterBill\$2 com.swad.cppatm.ui.EnterBill\$3 com.swad.cppatm.ui.EnterBillAsDollar com.swad.cppatm.ui.EnterBillAsDollar\$1 com.swad.cppatm.ui.EnterBillAsDollar\$2 com.swad.cppatm.ui.EnterDate com.swad.cppatm.ui.EnterDate\$1 com.swad.cppatm.ui.EnterDate\$2 com.swad.cppatm.ui.EnterLottery com.swad.cppatm.ui.EnterLottery\$1 com.swad.cppatm.ui.EnterLottery\$2 com.swad.cppatm.ui.EnterNumber com.swad.cppatm.ui.EnterNumber\$1 com.swad.cppatm.ui.EnterNumber\$10 com.swad.cppatm.ui.EnterNumber\$11 com.swad.cppatm.ui.EnterNumber\$12 com.swad.cppatm.ui.EnterNumber\$13 com.swad.cppatm.ui.EnterNumber\$14 com.swad.cppatm.ui.EnterNumber\$2 com.swad.cppatm.ui.EnterNumber\$3 com.swad.cppatm.ui.EnterNumber\$4 com.swad.cppatm.ui.EnterNumber\$5 com.swad.cppatm.ui.EnterNumber\$6 com.swad.cppatm.ui.EnterNumber\$7 com.swad.cppatm.ui.EnterNumber\$8 com.swad.cppatm.ui.EnterNumber\$9	com.swad.cppatm	com.intellij.uiDesigner.core com.swad.cppatm com.swad.cppatm.application com.swad.cppatm.enums com.swad.cppatm.exceptions com.swad.cppatm.ui.components java.awt java.awt.event java.io java.lang java.text java.util javax.swing

com.swad.cppatm.ui.components

Afferent Couplings: 1 Efferent Couplings: 3 Abstractness: 0 Instability: 0.75 Distance: 0.25

Abstract Classes	Concrete Classes	Used by Packages	Uses Packages
None	com.swad.cppatm.ui.components.JNumberTextField	com.swad.cppatm.ui	java.awt.event java.lang javax.swing

Cycles

[\[summary\]](#) [\[packages\]](#) [\[cycles\]](#) [\[explanations\]](#)

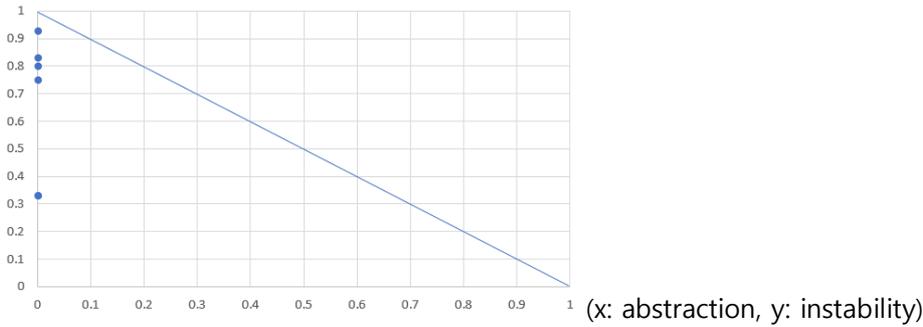
com.swad.cppatm

com.swad.cppatm.ui
 com.swad.cppatm

com.swad.cppatm.ui

com.swad.cppatm
 com.swad.cppatm.ui

2.3. Abstraction-Instability Metrics



3. Findbugs.

3.1. 탐지 유형

번호	탐지 유형	사례 및 설명
1	Bad practice	클래스 명명 규칙. Null 처리 실수 등 개발자의 나쁜 습관을 탐지
2	Correctness	잘못된 상수, 무의미한 메소드 호출 등 문제의 소지가 있는 코드를 탐지
3	Dodgy code	int 의 곱셈 결과를 long 으로 변환하는 등 부정확하거나 오류를 발생시킬 수 있는 코드를 탐지
4	Experimental	메소드에서 생성된 stream 이나 리소스가 해제하지 못한 코드를 탐지
5	Internationalization	Default 인코딩을 지정하지 않은 경우 등 지역특성을 고려하지 않은 코드 탐지
6	Malicious code vulnerability	보안 코드에 취약한 가변적인 배열이나 컬렉션, Hash table 탐지
7	Multithreaded correctness	멀티 스레드에 안전하지 않은 객체 사용 등을 탐지
8	Performance	미사용 필드, 비효율적 객체 생성 등 성능에 영향을 주는 코드를 탐지
9	Security	CSS, DB 패스워드 누락 등 보안에 취약한 코드를 탐지

3.2. 코드

코드	오류 명세	수정 제안
DE	DE_MIGHT_IGNORE: Method might ignore exception	예외처리를 하지 않음. 빈 catch 절이 존재.
OS	OS_OPEN_STREAM: Method may fail to close stream	stream close 하지 않음.
	OS_OPEN_STREAM_EXCEPTION_PATH: Method may fail to close stream on exception	stream 예외 처리를 하지 않음
RV	RV_RETURN_VALUE_IGNORED_BAD_PRACTICE: Method ignores exceptional return value	확인되지 않은 값을 리턴함.
SW	SW_SWING_METHODS_INVOKED_IN_SWING_THREAD: Certain swing methods needs to be invoked in Swing thread	Swing thread 를 호출해야 함.
RpC	RpC_REPEATED_CONDITIONAL_TEST: Repeated conditional tests	조건부 테스트가 중복 수행됨.
Dm	DM_STRING_TOSTRING: Method invokes toString() method on a String	String 이 toString()을 사용할 필요가 없음.
	DM_DEFAULT_ENCODING: Reliance on default encoding	byte to string or string to byte 변환을 수행할 때 Charset 객체를 명시적으로 지정해야 함.
EI	EI_EXPOSE_REP: May expose internal representation by returning reference to mutable object	객체의 필드 중 하나에 저장된 변경 가능한 객체 값에 대한 참조를 반환하면 객체의 내부 표현이 노출됨.
MS	MS_SHOULD_BE_FINAL: Field isn't final but should be	static 변수가 public 이라서 위험. Final 을 명시하여야 함.
LI	LI_LAZY_INIT_STATIC: Incorrect lazy initialization of static field	multi-thread 환경에서 초기화를 보장하지 못함.
SIC	SIC_INNER_SHOULD_BE_STATIC_ANON: Could be refactored into a named static inner class	내부 클래스이지만, 이를 만든 객체에 대한 내부 참조를 사용하지 않음.
DB	DB_DUPLICATE_SWITCH_CLAUSES: Method uses the same code for two switch clauses	코드가 중복 사용됨.

PZLA	PZLA_PREFER_ZERO_LENGTH_ARRAYS: Consider returning a zero length array rather than null	null 을 사용하는 것이 적절한지 검토 해봐야함. 0 을 사용하는게 나은 경우가 있다.
REC	REC_CATCH_EXCEPTION: Exception is caught when Exception is not thrown	하나의 catch 로 여러 예외를 처리하고 있음. throw 하지 않은 Exception 까지 catch 하려 함.
SF	SF_SWITCH_NO_DEFAULT: Switch statement found where default case is missing	switch 문에 default case 가 없음.
	SF_SWITCH_FALLTHROUGH: Switch statement found where one case falls through to the next case	switch 문에 특정 case 가 수행 후, 다음 case 로 fall though 중임.
UwF	UWF_FIELD_NOT_INITIALIZED_IN_CONSTRUCTOR: Field not initialized in constructor but dereferenced without null check	생성 시 초기화 되지 않은 값이 null check 없이 참조 해제 됨.

3.3. Metrics

Metrics

4748 lines of code analyzed, in 129 classes, in 6 packages.

Metric	Total	Density*
High Priority Warnings	5	1.05
Medium Priority Warnings	24	5.05
Low Priority Warnings	38	8.00
Total Warnings	67	14.11

(* Defects per Thousand lines of non-commenting source statements)

3.4. Summary

Summary

Warning Type	Number
Bad practice Warnings	11
Correctness Warnings	4
Internationalization Warnings	5
Malicious code vulnerability Warnings	4
Multithreaded correctness Warnings	1
Performance Warnings	25
Dodgy code Warnings	17
Total	67

3.5. Bad practice Warnings

Bad practice Warnings

Code	Warning
DE	com.swad.cppatm.application.ATMSystem.getCurrency() might ignore java.lang.Exception
DE	com.swad.cppatm.application.Lottery.checkResult() might ignore java.lang.Exception
OS	com.swad.cppatm.application.ATMSystem.getCurrency() may fail to close stream
OS	com.swad.cppatm.application.DataStore.saveAdminData(ArrayList) may fail to close stream
OS	com.swad.cppatm.application.DataStore.saveAccountData(Account) may fail to close stream on exception
OS	com.swad.cppatm.application.DataStore.saveUserData(User) may fail to close stream on exception
OS	com.swad.cppatm.application.Lottery.checkResult() may fail to close stream
RV	Exceptional return value of java.io.File.mkdirs() ignored in com.swad.cppatm.application.DataStore.saveAccountData(Account)
RV	Exceptional return value of java.io.File.mkdirs() ignored in com.swad.cppatm.application.DataStore.saveAdminData(ArrayList)
RV	Exceptional return value of java.io.File.mkdirs() ignored in com.swad.cppatm.application.DataStore.saveUserData(User)
SW	Call to swing method in com.swad.cppatm.Main.main(String[]) needs to be performed in Swing event thread

3.6. Correctness Warnings

Correctness Warnings

Code	Warning
RpC	Repeated conditional test in com.swad.cppatm.application.ATMSystem.selectFunction(FunctionType)
RpC	Repeated conditional test in com.swad.cppatm.application.ATMSystem.selectFunction(FunctionType)
RpC	Repeated conditional test in com.swad.cppatm.application.ATMSystem.selectFunction(FunctionType)
RpC	Repeated conditional test in com.swad.cppatm.application.ATMSystem.selectFunction(FunctionType)

3.7. Internationalization Warnings.

Internationalization Warnings

Code	Warning
Dm	Found reliance on default encoding in com.swad.cppatm.application.ATMSystem.getCurrency(): new java.io.InputStreamReader(InputStream)
Dm	Found reliance on default encoding in com.swad.cppatm.application.DataStore.loadAccountData(Bank, String): new java.io.FileReader(String)
Dm	Found reliance on default encoding in com.swad.cppatm.application.DataStore.loadAdminData(): new java.io.FileReader(String)
Dm	Found reliance on default encoding in com.swad.cppatm.application.DataStore.loadUserData(String): new java.io.FileReader(String)
Dm	Found reliance on default encoding in com.swad.cppatm.application.Lottery.checkResult(): new java.io.InputStreamReader(InputStream)

3.8. Malicious code vulnerability Warnings.

Malicious code vulnerability Warnings

Code	Warning
EI	com.swad.cppatm.application.SystemBalance.getATMBalance() may expose internal representation by returning SystemBalance.current
EI	com.swad.cppatm.application.Transaction.getTime() may expose internal representation by returning Transaction.time
MS	com.swad.cppatm.enums.BillType.dollarSize isn't final but should be
MS	com.swad.cppatm.enums.BillType.wonSize isn't final but should be

3.9. Multithreaded correctness Warnings.

Multithreaded correctness Warnings

Code	Warning
LI	Incorrect lazy initialization of static field com.swad.cppatm.Main.application in com.swad.cppatm.Main.getInstance()

3.10. Performance Warnings

Performance Warnings

Code	Warning
Dm	new com.swad.cppatm.ui.ReportLostCard(JFrame, ATMSystem) invokes toString() method on a String
Dm	com.swad.cppatm.ui.ReportLostCard\$1.mousePressed(MouseEvent) invokes toString() method on a String
SIC	The class com.swad.cppatm.application.DataStore\$1 could be refactored into a named _static_ inner class
SIC	The class com.swad.cppatm.ui.AdminSelectFunction\$1 could be refactored into a named _static_ inner class
SIC	The class com.swad.cppatm.ui.AdminSelectFunction\$3 could be refactored into a named _static_ inner class
SIC	The class com.swad.cppatm.ui.AdminSelectFunction\$4 could be refactored into a named _static_ inner class
SIC	The class com.swad.cppatm.ui.AdminSelectFunction\$5 could be refactored into a named _static_ inner class
SIC	The class com.swad.cppatm.ui.AdminSelectFunction\$6 could be refactored into a named _static_ inner class
SIC	The class com.swad.cppatm.ui.AdminSelectFunction\$7 could be refactored into a named _static_ inner class
SIC	The class com.swad.cppatm.ui.ChangeLocale\$1 could be refactored into a named _static_ inner class
SIC	The class com.swad.cppatm.ui.ChangeLocale\$2 could be refactored into a named _static_ inner class
SIC	The class com.swad.cppatm.ui.EnterAdminInfo\$2 could be refactored into a named _static_ inner class
SIC	The class com.swad.cppatm.ui.EnterATMBalance\$2 could be refactored into a named _static_ inner class
SIC	The class com.swad.cppatm.ui.EnterBill\$2 could be refactored into a named _static_ inner class
SIC	The class com.swad.cppatm.ui.EnterBillAsDollar\$2 could be refactored into a named _static_ inner class
SIC	The class com.swad.cppatm.ui.EnterDate\$1 could be refactored into a named _static_ inner class
SIC	The class com.swad.cppatm.ui.EnterLottery\$2 could be refactored into a named _static_ inner class
SIC	The class com.swad.cppatm.ui.EnterUserID\$2 could be refactored into a named _static_ inner class
SIC	The class com.swad.cppatm.ui.PrintResult\$1 could be refactored into a named _static_ inner class
SIC	The class com.swad.cppatm.ui.QueryATMBalance\$1 could be refactored into a named _static_ inner class
SIC	The class com.swad.cppatm.ui.QueryBalance\$1 could be refactored into a named _static_ inner class
SIC	The class com.swad.cppatm.ui.QueryList\$1 could be refactored into a named _static_ inner class
SIC	The class com.swad.cppatm.ui.ReportLostCard\$2 could be refactored into a named _static_ inner class
SIC	The class com.swad.cppatm.ui.RequestCardOrBankbook\$2 could be refactored into a named _static_ inner class
SIC	The class com.swad.cppatm.ui.SelectFunction\$4 could be refactored into a named _static_ inner class

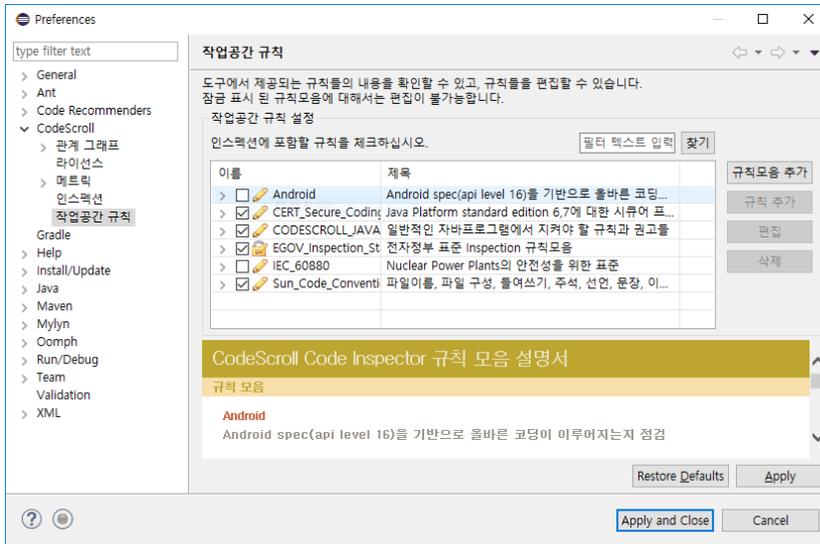
3.11. Dodgy code Warnings

Dodgy code Warnings

Code	Warning
DB	com.swad.cppatm.application.ATMSystem.selectFunction(FunctionType) uses the same code for two switch clauses
DB	com.swad.cppatm.ui.EnterPassword\$13.mousePressed(MouseEvent) uses the same code for two switch clauses
PZLA	Should com.swad.cppatm.application.ATMSystem.calcBillAmount(int, String) return a zero length array rather than null?
REC	Exception is caught when Exception is not thrown in com.swad.cppatm.application.ATMSystem.getCurrency()
REC	Exception is caught when Exception is not thrown in com.swad.cppatm.application.DataStore.saveAccountData(Account)
REC	Exception is caught when Exception is not thrown in com.swad.cppatm.application.DataStore.saveAdminData(ArrayList)
REC	Exception is caught when Exception is not thrown in com.swad.cppatm.application.DataStore.saveUserData(User)
REC	Exception is caught when Exception is not thrown in com.swad.cppatm.application.Lottery.checkResult()
REC	Exception is caught when Exception is not thrown in com.swad.cppatm.ui.EnterLottery\$1.mousePressed(MouseEvent)
SF	Switch statement found in com.swad.cppatm.ui.AuthorizeAdmin\$2.keyPressed(KeyEvent) where default case is missing
SF	Switch statement found in com.swad.cppatm.ui.EnterAdminInfo\$3.keyPressed(KeyEvent) where default case is missing
SF	Switch statement found in com.swad.cppatm.ui.EnterBill\$1.mousePressed(MouseEvent) where default case is missing
SF	Switch statement found in com.swad.cppatm.ui.ReportLostCard\$1.mousePressed(MouseEvent) where one case falls through to the next case
SF	Switch statement found in com.swad.cppatm.ui.ReportLostCard\$1.mousePressed(MouseEvent) where default case is missing
SF	Switch statement found in com.swad.cppatm.ui.RequestCardOrBankbook\$3.keyPressed(KeyEvent) where default case is missing
UWF	Transaction.account not initialized in constructor and dereferenced in com.swad.cppatm.application.Transaction.calcFee()
UWF	Transaction.account not initialized in constructor and dereferenced in com.swad.cppatm.application.Transaction.processTransaction()

4. Code scroll Inspector.

4.1. Ruleset



4.2. 오류 분류

EGOV	JAVA	SUN	CERT_SECURE_CODING
EGOV_01_EMPTYCATCHBLOCK	JAVA_44	SUN_13	ERROR
EGOV_12_SWITCHSTMTSSHOU DHAVEDEFAULT	JAVA_65	SUN_10	ERROR00-J
EGOV_14_FINALFIELD COULDBESTATIC	JAVA_61	SUN_26	ERROR02-J
EGOV_25_SYSTEMPRINTLN	JAVA_63	SUN_27	ERROR08-J
EGOV_26_VARIABLENAMINGCONVENTIONS	JAVA_64	SUN_24	NUM
EGOV_28_AVOIDARRAYLOOPS	JAVA_71	SUN_22	NUM02-J
EGOV_33_STRINGTOSTRING	JAVA_72	SUN_20	NUM06-J
EGOV_37_UNUSEDPRIVATEFIELD	JAVA_68	SUN_19	VNA
EGOV_39_UNUSEDFORMALPARAMTER		SUN_17	VNA04-J
		SUN_14	OBJ
		SUN_03	OBJ05-J
		SUN_05	OBJ01-J
		SUN_06	OBJ03-J
		SUN_07	OBJ04-J
		SUN_08	META
		SUN_11	META04-J
			META05-J

	매우 높음
	높음
	낮음
	매우 낮음

4.3. 오류 상세

오류명	심각도	오류 명세	수정 제안
JAVA_44	매우 높음	printstacktrace 메서드가 사용됨	시스템 내부 데이터나 디버깅 관련 정보가 공개되면 공격의 빌미가 될 수 있다. printstacktrace 메서드를 사용하지 않는다.
OBJ05-J	매우 높음	PUBLIC 메서드에서 PRIVATE 필드 리턴 시 레퍼런스를 그대로 리턴함	객체 내부의 상태를 외부에서 수정하도록 해서는 안되므로 MUTABLE 멤버에 대한 레퍼런스를 외부에 노출해서는 안된다, CLONE 을 RETURN 한다.
EGOV_01_EMPTYCATCHBLOCK JAVA_65 ERROR00-J(낮음)	높음	빈 CATCH 절이 존재함. 의도한 것이라면 COMMENT 로 표시하는 것을 권장함	CATCH BLOCK 에 반드시 예외를 다루는 코드를 작성한다.
EGOV_12_SWITCHSTMTSSHOULDHAVEDEFAULT JAVA_61 SUN_13(매우 낮음)	높음	DEFAULT 없는 SWITCH 구문 사용을 금지한	SWITCH 구문에 반드시 DEFAULT LABEL 이 있어야 한다.
EGOV_14_FINALFIELDCOULDBESTATIC JAVA_63	높음	클래스의 FINAL 멤버 필드가 STATIC 이 아님	FINAL FIELD 를 STATIC 으로 전환해서 OVERHEAD 를 줄인다.

EGOV_25_SYSTEMPRINTLN	높음	PRINTLN 메서드가 사용됨	전용 로거를 사용할 것을 권장한다.
EGOV_26_VARIABLENAMINGCONVENTIONS	높음	필드이름 규칙 위배	변수명에 밑줄 사용을 금지함 FINAL 이 아닌 변수는 밑줄을 포함하지 말아야 한다.
EGOV_28_AVOIDARRAYLOOPS	높음	배열의 값을 반복문으로 복사함	루프문을 이용한 배열 복사를 금지한다 SYSTEM.ARRAYCOPY() 메서드를 이용하여 복사하는 것이 효율적이다
EGOV_33_STRINGTOSTRING	높음	TOSTRING 메서드가 사용됨	불필요한 TOSTRING 메서드 사용을 금지한다 STRING 객체에서 TOSTRING 함수를 사용하는 것은 불필요, 해당 코드 제거한다.
ERROR02-J	높음	적절한 로거를 사용하지 않음	로깅할 때 예외가 발생하면 공격자가 이 상황을 눈치채고 DOS 같은 공격이 가능하다 일반적으로 로깅시에 많은 양의 문자열이 만들어지고 이 문자열이 디스크에 기록되므로 상당한 비용이 소모된다. 로그 메커니즘을 사용하는 것을 권장한다.
ERROR08-J	높음	EXCEPTION 을 CATCH 함	NULLPOINTEXCEPTION 이 발생하는 현상은 반드시 수정해야 하는 문제이므로 발생을 확실히 알 수 있도록 반드시 예외가 노출되어 비정상 종료되도록 해야한다.
JAVA_64	높음	반복문 안에서 STRING CONCATENATION 연산자를 사용함	STRINGBUFFER 를 사용하기를 권장한다.
JAVA_71	높음	클래스의 설명 주석이 없거나, 설명 주석 내용에 모든 태그가 포함되어있지 않음	JAVADOC 주석 스타일로 시작해야 한다.
JAVA_72	높음	메서드의 설명 주석이 없거나, 설명 주석 내용에 모든 태그가 포함되어있지 않음	JAVADOC 주석 스타일로 시작해야 한다.
META04-J	높음	OVERRIDE/HIDDEN 메서드의 접근가능성을 확대함	수퍼 클래스의 접근 가능성을 확대하면 원래 의도한 것보다 접근 가능한 리소스의 범위를 넓히게 된다. 따라서 OVERRIDING/HIDING 메서드가 수퍼 클래스의 접근가능성을 확대시키는 것은 위험하다.
META05-J	높음	생성자 내에서 FINAL 이나 PRIVATE 이 아닌 메서드를 호출함	클래스 인스턴스를 생성하는 중에 OVERRIDE 가능한 메서드를 호출하는 경우 초기화가 제대로 안 된 상태에서 OVERRIDING 메서드가 호출될 수 있다고 명시하고 있다. 따라서 초기화가 안 된 상태로 OVERRIDING 메서드가 실행될 뿐만 아니라 THIS 레퍼런스에 의해 초기화되지 않은 데이터 스레드들에 노출될 수 있다. 그러므로 생성자에게 OVERRIDE 가능함 메서드를 호출하는 것은 위험하다.
OBJ01-J	높음	NON-STATIC, NON-FINAL 필드가 PRIVATE 로 선언되지 않음	제한된 인터페이스를 이용하지 않고 객체 내부의 상태를 바꿀 수 있게 데이터 멤버를 노출하는 것은 공격의 빌미가 될 수 있다. 단 메서드가 존재하지 않는 순수 데이터 클래스 내부의 멤버는 검출 대상에서 제외한다.
EGOV_37_UNUSEDPRIVATEFIELD	낮음	PRIVATE 필드 SERIALVERSIONUID 를 사용하지 않음	미 사용 PRIVATE 필드가 존재하면 안된다, 해당소스 확인 후 삭제한다.

EGOV_39_UNUSEDFORMALPARAMETER	낮음	메소드에서 파라미터 E 를 사용하지 않음	해당 소스 확인 후 조치한다.
JAVA_68	낮음	"*"를 이용한 IMPORT 문을 사용함	*를 사용하여 IMPORT 하면 사용하려는 타입을 명확하게 알 수 없다. 어떤 것을 IMPORT 하는지 정확히 명시한다.
NUM02-J	낮음	나누기 또는 나머지 연산을 할 때 분모가 0 인지 분모의 변수(BILLTYPE)을 체크하는 부분이 없음	0 이 아님을 보장하는 코드가 들어있어야 한다(BILL TYPE).
NUM06-J	낮음	부동 소수점 계산에서 STRICTFP 를 사용하지 않아서 플랫폼 간의 일관성을 해칠 수 있음	자바 프로그램은 STRICTFP MODIFIER 가 존재하지 않는 경우, 각 플랫폼별로 정의한 JAVA 의 원시 타입이 가질 수 있는 값들보다 더 넓은 범위의 부동 소수점 값 집합을 이용하여 부동 소수점 계산하는 것을 허용한다. 플랫폼마다 달라질 수 있다.
OBJ03-J	낮음	제너릭 코드에 RAW TYPE 이 사용 됨	자바가 강건한 타입 체크 시스템을 사용하지 않는 것을 기존 코드와의 호환성 때문이다, 따라서 RAW TYPE 은 최소화 하는 것이 좋다
OBJ04-J	낮음	MUTABLE 클래스가 신뢰할 수 없는 코드에 객체를 안전하게 전달하기 위한 복사기능 제공하지 않음	MUTABLE 클래스 객체가 신뢰할 수 없는 코드에 전달되는 경우 이 코드에 의해 객체 내용이 변경 될 수 있다는 것을 가정하고 이로 인한 피해가 없도록 사본을 전달할 수 있어야 한다.
SUN_10	낮음	지역 변수 선언 시 초기화를 하지 않음	초기화 한다
SUN_26	낮음	괄호를 사용하지 않고 여러 연산자를 사용하여 수식을 혼용함	괄호로 구분한다
VNA04-J	낮음	체인형 메서드 호출이 올바른 형태가 아님	체인형 메서드를 이용하여 프로그램을 구현할 경우 THREAD-SAFE 함을 보장하기 위해 BUILDER 를 두어야 한다.
SUN_27	매우 낮음	조건 연산자 앞의 조건부에 이진 연산이 괄호 없이 사용됨	조건 연산자 ? 앞의 조건부에 이진 연산이 있는 경우 괄호로 구분해야 한다.
SUN_24	매우 낮음	숫자 상수를 사용함	숫자 상수를 사용하면 안된다. 변수 선언문의 초기화 값으로 -1, 0, 1 은 허용한다
SUN_22	매우 낮음	NON-STATIC 필드가 PUBLIC 으로 선언	PUBLIC 으로 선언한 인스턴스 변수는 독립된 저장 공간을 가지므로 SIDE EFFECT 를 최소화하기 위해 STATIC 을 붙여 클래스 변수로 사용해야 한다.
SUN_20	매우 낮음	필드의 이름이 규칙에 맞지 않음	필드 이름은 첫 글자를 소문자로 단어와 단어는 CAMEL 스타일로 써서 구분한다.
SUN_19	매우 낮음	메서드의 이름이 규칙에 맞지 않음	메서드 이름은 첫 글자를 소문자로 단어와 단어는 CAMEL 스타일로 써서 구분한다.
SUN_17	매우 낮음	지역 변수 선언문과 실행 문장 사이에 빈 줄이 없음	메서드 내부의 지역변수 선언부와 실행 문장 사이를 빈 줄로 구분해야 한다.
SUN_14	매우 낮음	한줄의 여러 개의 문장이 존재함	한 줄에 최대 한 문장만 있어야 한다
SUN_03	매우 매우 낮음	해당 소스 파일이 C 스타일 주석으로 시작하지 않음	주석을 작성해야 한다.(저자, 작성날짜, 저작권 표시)
SUN_05	매우 매우 낮음	생성자의 선언이 메서드 선언보다 코드상 뒤 쪽에 존재함	클래스 변수 - 인스턴스 변수 - 생성자 - 메서드 순으로 선언해야 한다.

SUN_06	매우 매우 낮음	라인의 길이가 (80)을 넘음	한 줄에 80 자 이상을 쓰지 않는다. 너무 길면 터미널이나 소스 코드를 사용할 때 오류가 난다.
SUN_07	매우 매우 낮음	한 줄에 여러 식별자를 선언함	한 줄에 하나의 식별자만 선언한다.
SUN_08	매우 매우 낮음	블록의 시작 부분이 아닌 곳에 선언함	시작 부분에만 변수를 선언해야 한다.
SUN_11	매우 매우 낮음	if 문에서 중괄호가 사용되지 않음	if 문이 하나의 stmt 만을 포함하더라도 항상 중괄호가 쓰여야 한다.