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SOEN 6011 **40049141**

1 Introduction

Code Review is a systematic examination(also referred as Peer review) of the source code.The review process is performed to find the mistakes which was ignored in the initial development phase and arr usually performed to improve the overall quality of the software by improving internal code quality and maintainability, also find performance problems, security vulnerabilities etc [1].

Manual Review

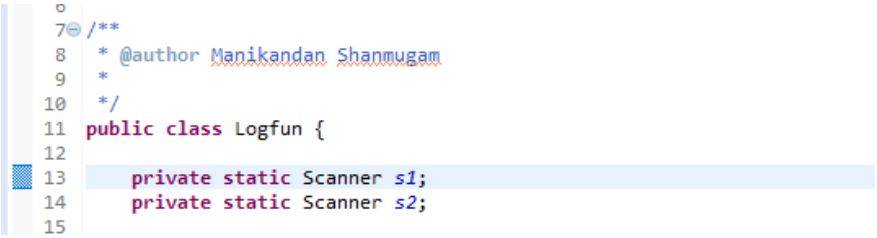

Figure 1: No Meaningful Class Name

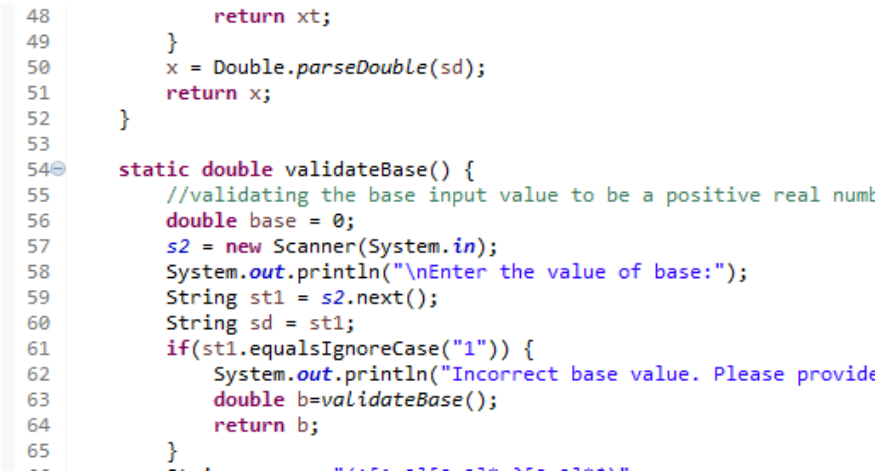

Figure 2: Javadoc Comments Absent

A method can have only one return statement and that should be the end of the statement.

```
81          base = Double.parseDouble(sa);
82          return base;
83      }
84
85      static int floorCeil(double s,double x,double base) {
86          if(x==1) {
87              return 0;
88          }
89          else if(s==0) {
90              double b1=base;
91              double s1=s+1;
92              for(int v=1;v<=s1;v++) {
93                  base=base*b1;
94              }
95              if(base<x) {
96                  return 1;
97              }
98              else if(base>x) {
99                  return 1;
100             }
101         }
102         else {
103             double b1=base;
104             for(int v=1;v<s;v++) {
105                 base=base*b1;
106             }
107             if(base<x) {
108                 return 1;
109             }
110             else if(base>x) {
111                 return 2;
112             }
113             else {
114                 return 0;
115             }
116         }
117         return -1;
118     }
```

Figure 3: Multiple Return Statements

SonarQube

SonarQube is a free and open source static code analysis tool to detect bugs, code smells, security vulnerabilities. SonarQube supports more than 20 programming languages and it has inbuilt rules for most of the languages.I have hosted SonarQube on my system and used it to perform the code review and used the java rule-set(consisted of 351 active rules) to perform the analysis.

Review Report

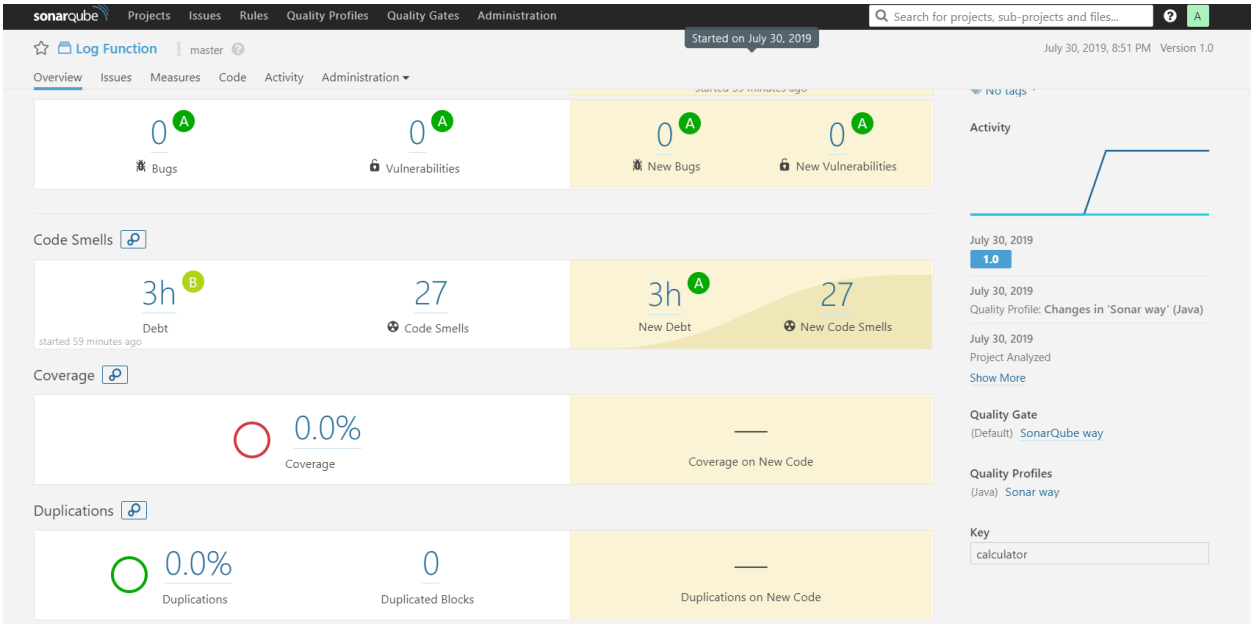

Figure 4: SonarQube Dashboard. (Log Function)

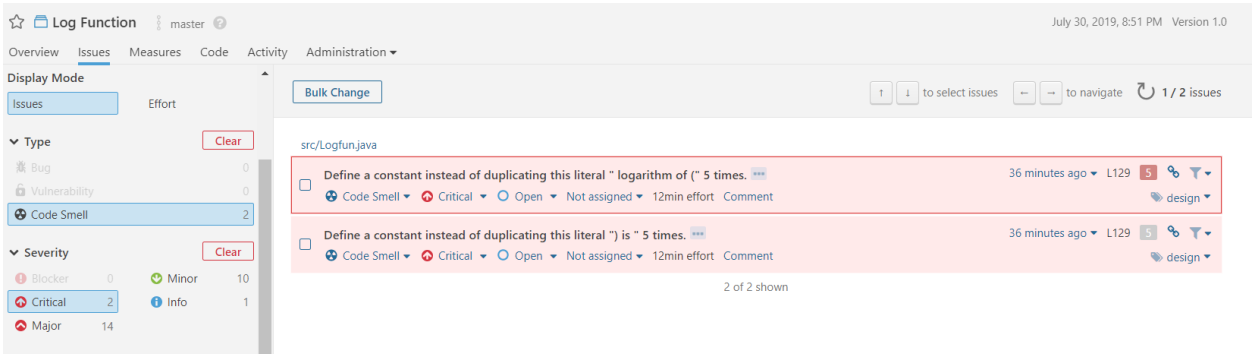

Figure 5: Critical Errors

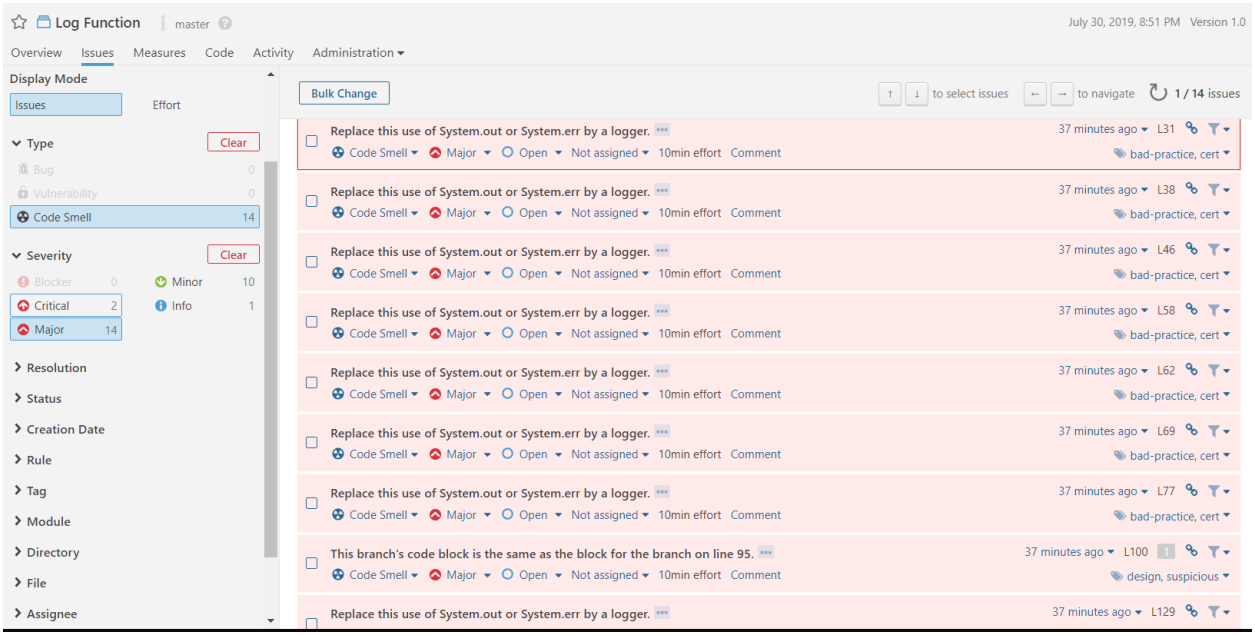

Figure 6: Major Errors

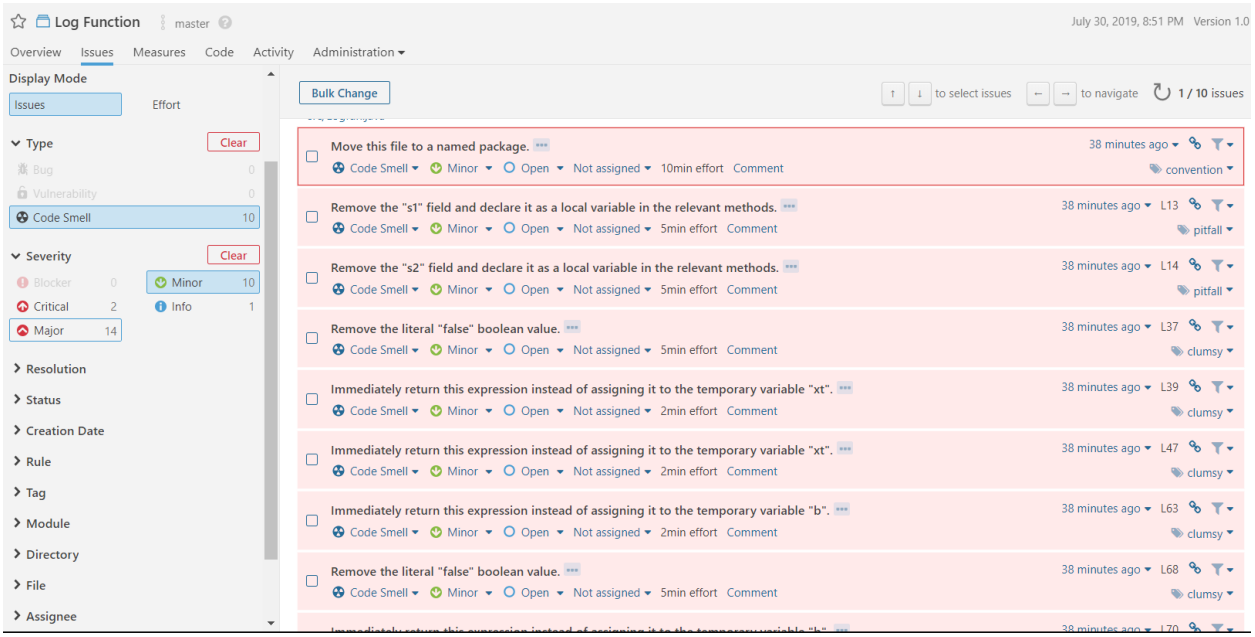

Figure 7: Minor Errors

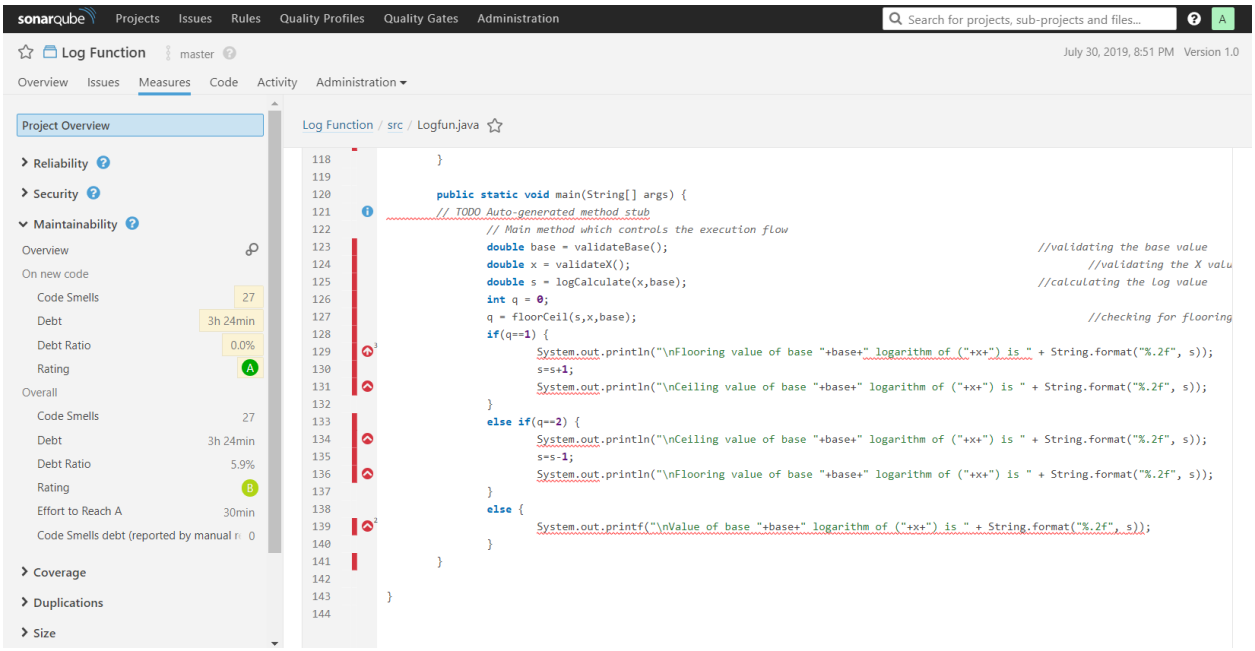

Figure 8: Function Main Method Implementation

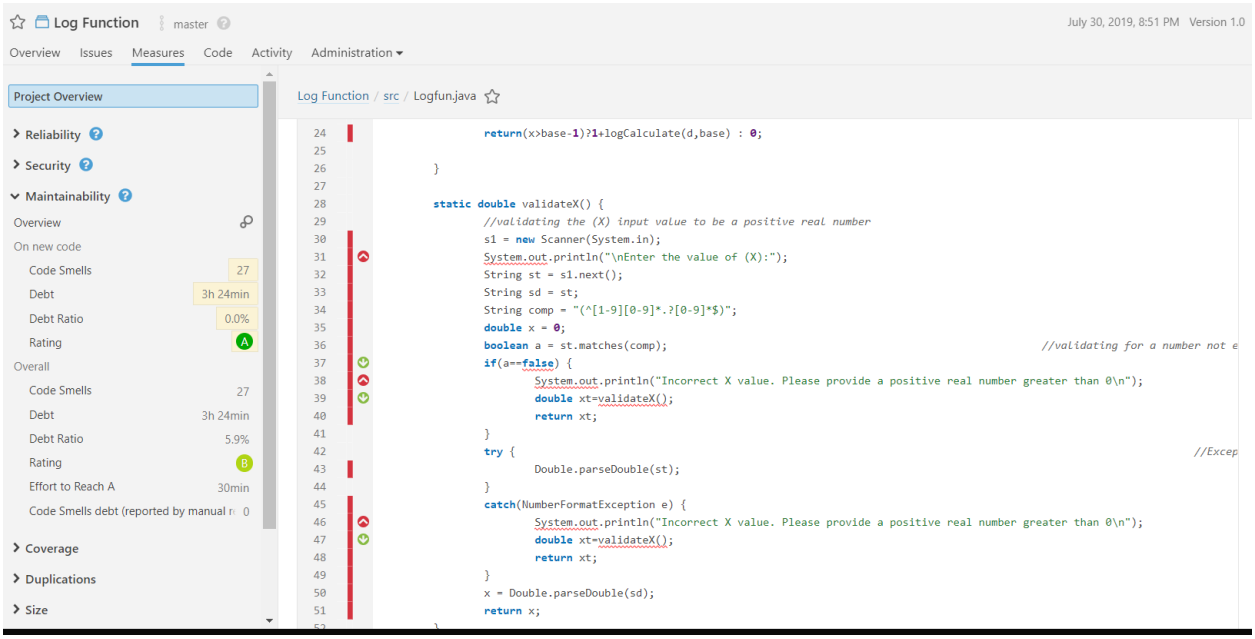

Figure 9: Function Method Implementation

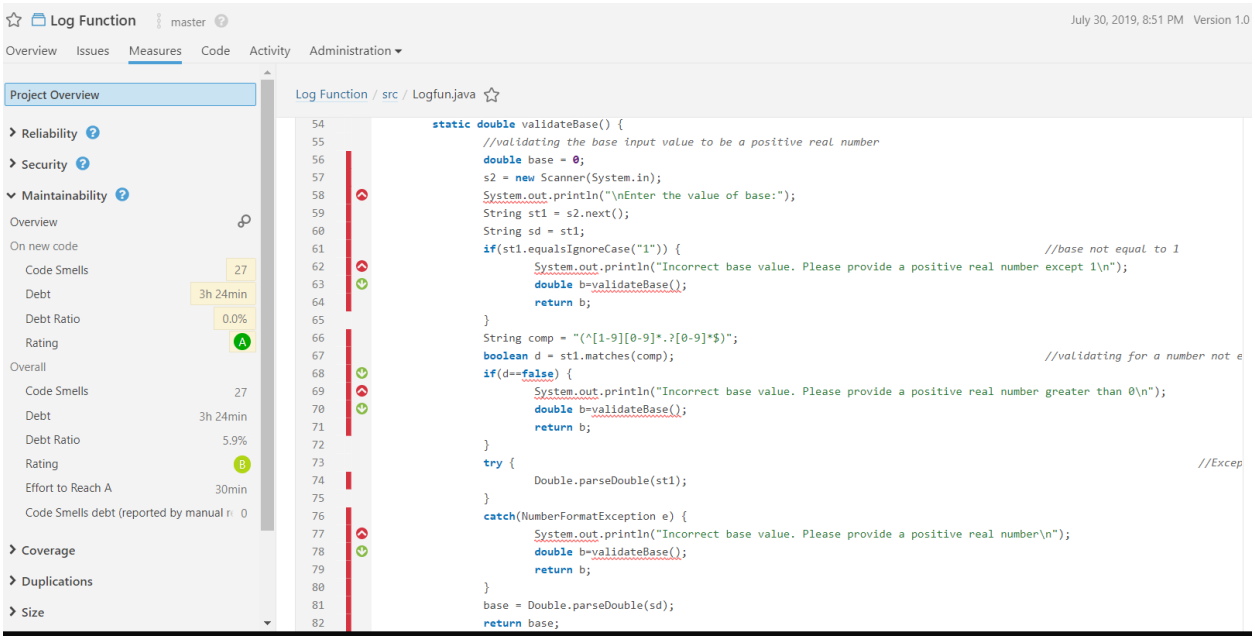

Figure 10: Function Method Implementation

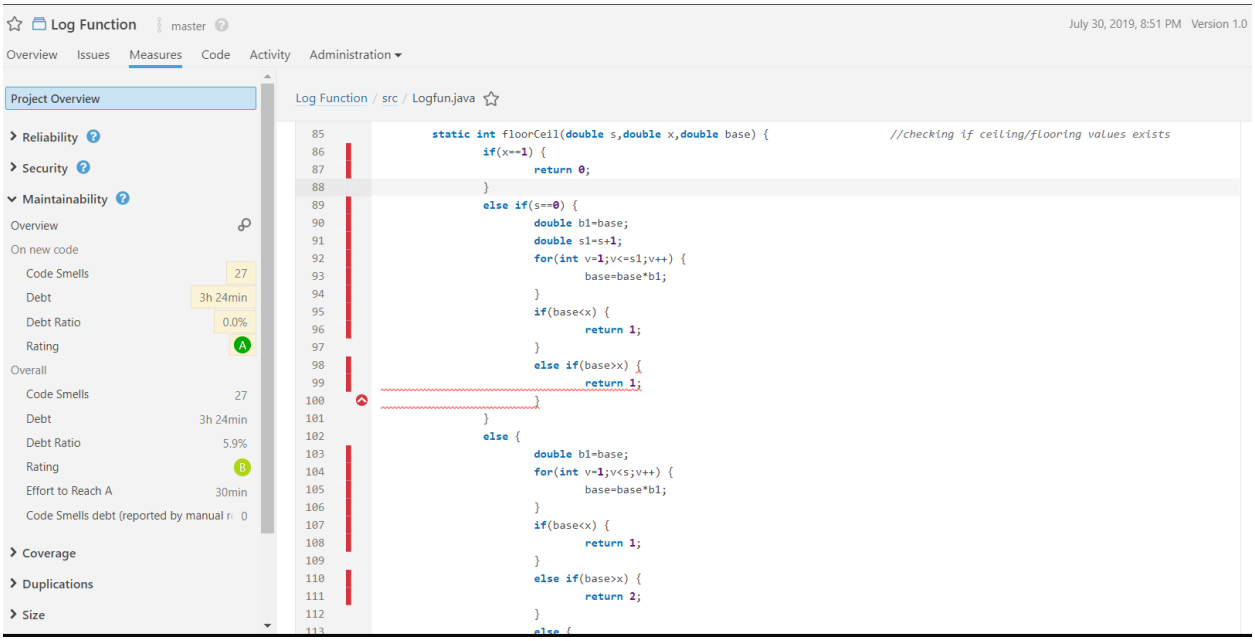

Figure 11: Function Method Implementation

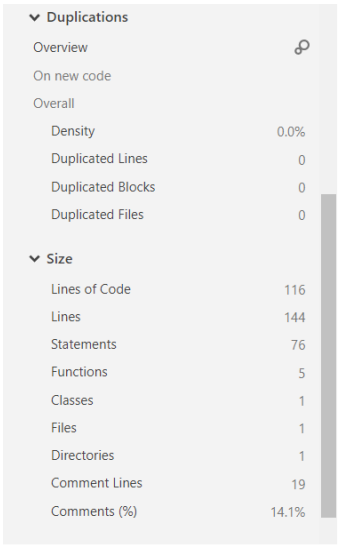

Figure 12: Quality Measures

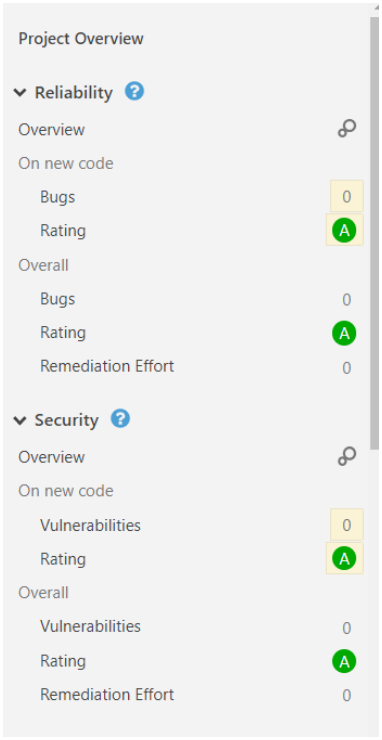

Figure 13: Quality Measures

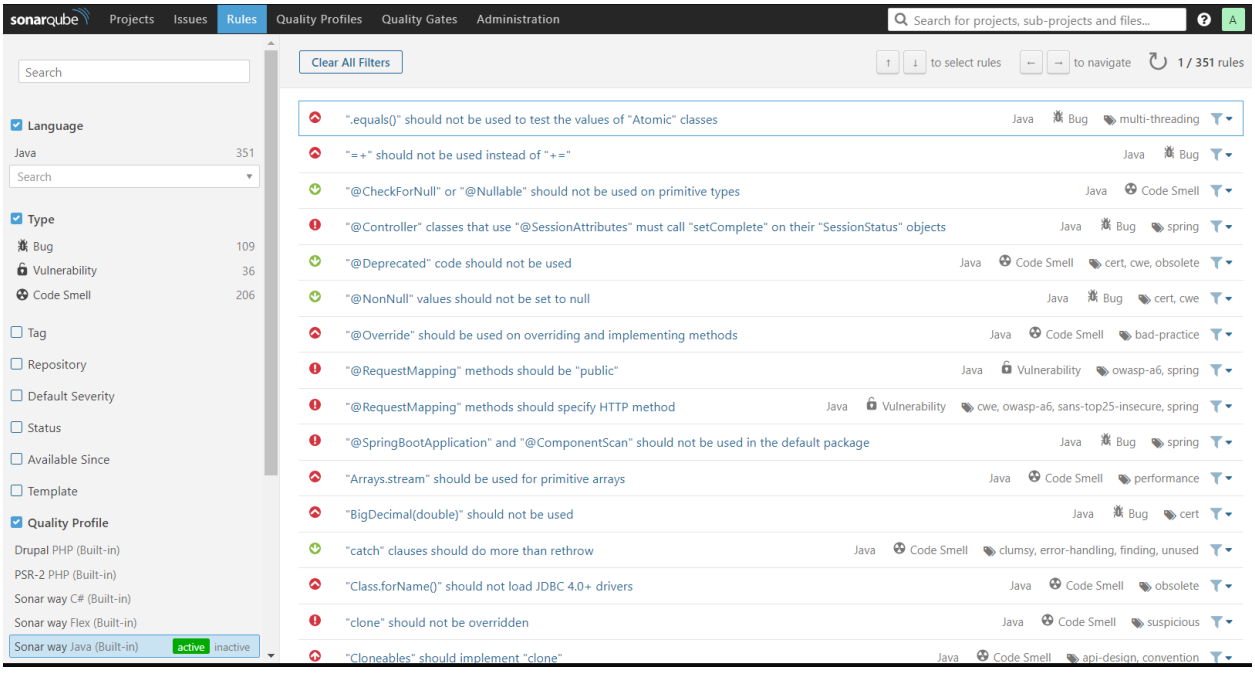

Figure 14: SonarQube Java Rules

Github

This is the Link to my project repository : F3: sinh(x) or you can go to the url : `https://github.com/Ruthvik-Shandilya/SOEN-6011`.

This is the Link to the reviewed project repository : F4: logb(x) or you can go to the url : `https://github.com/manikandan-ms/SOEN6011`.

References

[1] Code Review,
texttthttps://en.wikipedia.org/wiki/Codereview