

CODE REVIEW

Code Smells

1. Bad Variable Names:

a. **Solution:** I renamed the variable to something more understandable

b. **Refactoring:**

i. Before: `KeyAdapter k = new KeyAdapter();`

ii. After: `KeyAdapter keyAdapter = new KeyAdapter();`

c. **Location:** In GameController class, at line 383, at commit#: 21e1282e9c2461cd8559d0afaf8d0ffa10240d38

2. Unnecessary function:

a. **Solution:** I deleted the function

b. **Refactoring:**

i. Before: `public void link(Square square) {};` `public void linkAll() {};`

ii. After: deleted

c. **Location:** In GameController class, at line 144 and line 162, at commit#: 21e1282e9c2461cd8559d0afaf8d0ffa10240d38

3. Long Method:

a. **Solution:** I extracted code from the long method and placed these codes into various functions then called them

b. **Refactoring:**

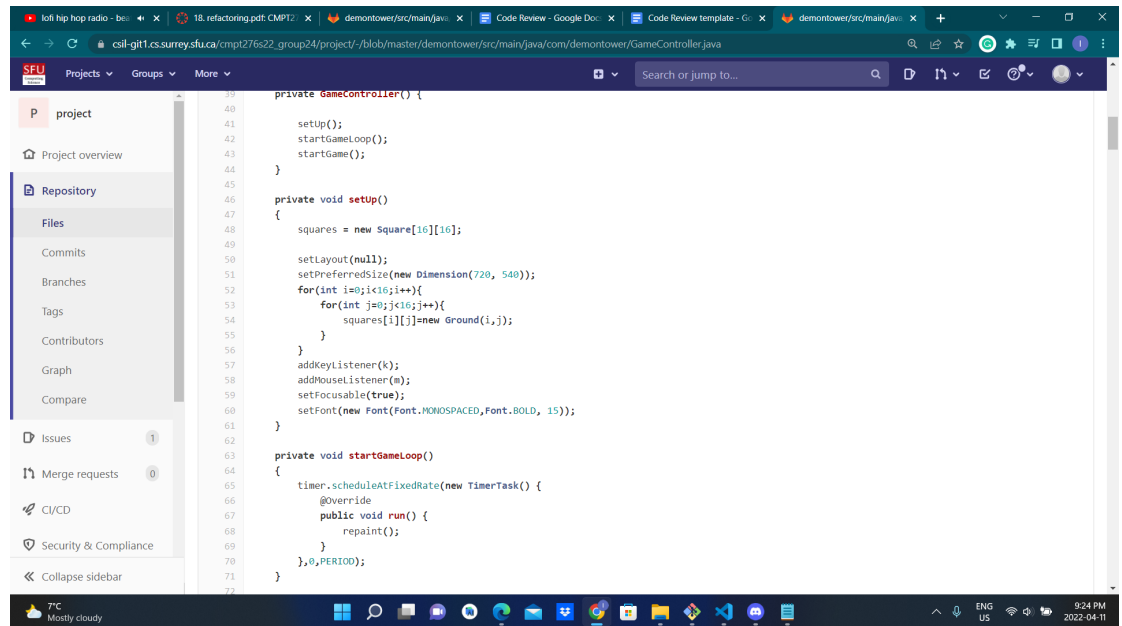
i. Before:

```

44 // create a new board of squares with the given dimensions and link the squares together
45 private GameController() {
46
47     squares = new Square[16][16];
48     setLayout(null);
49     setPreferredSize(new Dimension(720, 540));
50     for(int i=0; i<16; i++){
51         for(int j=0; j<16; j++){
52             squares[i][j] = new Ground(i, j);
53         }
54     }
55     addKeyListener(k);
56     addMouseListener(m);
57     setFocusable(true);
58     setFont(new Font(Font.MONOSPACED, Font.BOLD, 15));
59     timer.scheduleAtFixedRate(new TimerTask() {
60         @Override
61         public void run() {
62             repaint();
63         }
64     }, 0, PERIOD);
65     startGame();
66 }
67

```

ii. After:



```
39 private GameController() {
40     setUp();
41     startGameLoop();
42     startGame();
43 }
44
45 private void setUp()
46 {
47     squares = new Square[16][16];
48
49     setLayout(null);
50     setPreferredSize(new Dimension(720, 540));
51     for(int i=0; i<16; i++){
52         for(int j=0; j<16; j++){
53             squares[i][j] = new Ground(i, j);
54         }
55     }
56     addKeyListener(k);
57     addMouseListener(m);
58     setFocusable(true);
59     setFont(new Font(Font.MONOSPACED, Font.BOLD, 15));
60 }
61
62 private void startGameLoop()
63 {
64     timer.scheduleAtFixedRate(new TimerTask() {
65         @Override
66         public void run() {
67             repaint();
68         }
69     }, 0, PERIOD);
70 }
71
72 }
```

iii. **Location:** In GameController class, at line 47 - 64, at
commit#:21e1282e9c2461cd8559d0afaf8d0ffa10240d38

4. No documentation

a. **Solution:** I used JavaDocs

b. **Refactoring:**

i. Before: No JavaDocs:

ii. After: All public functions in GameController and Level class are documented using JavaDocs

c. **Location:** In GameController and Level class, all public functions, at
commit#:21e1282e9c2461cd8559d0afaf8d0ffa10240d38

5. Code Duplication

a. **Solution:** I put repeated code into a single function

b. **Refactoring:**

i. Before: final int index = 3; and String FILE_NAME = "Wall-Test.txt"; lines were repeated in multiple functions

ii. After:

1. public void readFromFileWall() {initFileSetUp(3, "Wall-Test.txt");}
2. public void readFromFileLavaPit(){initFileSetUp(95, "LavaPit-Test.txt");}

c. **Location:** In LevelTest class, at lines 28 - 66, at
commit#:21e1282e9c2461cd8559d0afaf8d0ffa10240d38