

ITRW 222 Assignment M2 (Minesweeper 2)

The aim of this assignment is to study the following concepts:

1. Better understanding of Layout managers – You have to upgrade to grid bag layout now
2. Layouts must be “revalidated()” and I had to use repaint() to be refreshed

This is step 2 in designing the minesweeper game.

Phase 1.

You have to remove the button that was pressed and replace the button with a label. Change the format of the label slightly

0,0	1,0	2,0	3,0	4,0
0,1	1*1	2*1	3,1	4,1
0,2	1*2	2*2	3*2	4,2
0,3	1*3	2,3	3,3	4,3

Where to find help:

1. You need grid bag layout to be able to remove a specific button on the grid and a label to a specific cell on the grid without repopulating all the others.
2. There are a number of different ways to use grid bag layout – I used the strategy explained here: look at <https://www.javatpoint.com/java-gridbaglayout>

Phase 2.

Change phase 1 to work with the left button and develop the correct functionality for the right button. At first the right button should only change the button text without removing the button. See if you can relate this idea to minesweeper. Change the label when the right button was pressed – I used a %

Testing Buttons				
0,0	1,0	2,0	3,0	4,0
0,1	1*1	2,1	3,1	4,1
0,2	1,2	2%2	3%2	4,2
0,3	1,3	2%3	3,3	4,3

A few tips

- Use a MouseListener: `private class MouseHandler implements MouseListener` instead of an ActionListener
- You can add the mouse listener to the button as you did with the ActionListener
- You can still use `getSource()` – but cast it to a JButton
- You need to override all the methods in the MouseListener class – but you can give empty code for the ones you do not use:

```
101         }  
102     }  
103     public void mousePressed(MouseEvent me) {}  
104     public void mouseReleased(MouseEvent me) {}  
105     public void mouseEntered(MouseEvent me) {}  
106     public void mouseExited(MouseEvent me) {}  
107 }  
108
```

Reflection

We learn by reflection. You need to do explicit reflection by completing the reflection page provided below.

Run.bat

Create a file in notepad called "run.bat" – use the double quotation marks to force the type to be .bat. You can now simply click on the file to "run" your program. Think about the motivation for the "pause" statement.

```
javac Minefield.java
```

```
javac MinefieldTest.java
```

```
java MinefieldTest
```

```
pause
```

Submit

Check the assignment submission section on eFundi for the submission date. Submit a Zip file containing both classes, your run.bat and your reflection page.

Allocation of marks (1 mark out of 3 for each phase and reflection):

Phase 1:

Do not compile = 0 ;

Work perfectly 3;

Depending of what happens 1 or 2

Phase 2:

Do not compile = 0;

Work perfectly 3;

Depending of what happens 1 or 2

REFLECTION: Assignment _____

NAME: _____

For every assignment you need to submit a MS Word reflection table

<i>I can describe my initial reaction when I received the assignment as:</i>	
<i>Aspects of ITRW222 I applied</i>	<i>New Java constructs mastered</i>
My biggest problem / obstacle:	
How did I solve the problem: (be specific on Internet usage – give addresses)	
I enjoyed the following parts:	
I now know the following parts of Java better:	
Report on your success:	