

Counting Neighbours

Make a new method.

```
public void neighbours ()
{
    for (int i = 0 ; i < row ; i++)
    {
        for (int j = 0 ; j < col ; j++)
        {
            if (b [i] [j] != 10)
            {
                int count = 0;
                if (i - 1 >= 0 && j - 1 >= 0 && b [i - 1] [j - 1] == 10)
                    count++;
                if (i - 1 >= 0 && b [i - 1] [j] == 10)
                    count++;
                if (i - 1 >= 0 && j + 1 < col && b [i - 1] [j + 1] == 10)
                    count++;
                //add other directions here
                |
                b [i] [j] = count;
            }
        }
    }
}
```

Make them ifs,
do not use else
ifs

Add all of the directions

Up, Left

Guard:
 $i-1 \geq 0$
 $j-1 \geq 0$

$i-1,$
 $j-1$

Up

Guard:
 $i-1 \geq 0$

$i-1, j$

Up, Right

Guard:
 $i-1 \geq 0$
 $j+1 < \text{col}$

$i-1,$
 $j+1$

Left

Guard:
 $j-1 \geq 0$

$i, j-1$

i, j

Right

Guard:
 $j+1 < \text{col}$

$i, j+1$

$i+1,$
 $j-1$

$i+1, j$

$i+1,$
 $j+1$

```
public void neighbours ()
{
    for (int i = 0 ; i < row ; i++)
    {
        for (int j = 0 ; j < col ; j++)
        {
            if (b [i] [j] != 10)
            {
                int count = 0;
                if (i - 1 >= 0 && j - 1 >= 0 && b [i - 1] [j - 1] == 10)
                    count++;
                if (i - 1 >= 0 && b [i - 1] [j] == 10)
                    count++;
                if (i - 1 >= 0 && j + 1 < col && b [i - 1] [j + 1] == 10)
                    count++;
                //add other directions here
                b [i] [j] = count;
            }
        }
    }
}
```

Down, Left

Guard:
 $i+1 < \text{row}$
 $j-1 \geq 0$

Down

Guard:
 $i+1 < \text{row}$

Down, Right

Guard:
 $i+1 < \text{row}$
 $j+1 < \text{col}$

Update Temporary Add for Testing

```
//TO DO: Fill this comment in  
else if (e.getActionCommand ().equals ("reset"))  
{  
    addMines (20);  
    neighbours ();  
    reveal ();  
}
```

Test your code to
make sure that it
works. Run it
multiple times.

