

## Assignment 13

Step 01 - Compile the following code (you can get the file from Blackboard)

I used the online compiler: <https://www.jdoodle.com/online-java-compiler/>

However, you can use any IDE as long as you submit code that I can compile and execute.

```
import java.io.*;
import java.util.Scanner;

public class Assignment13
{
    // put class definition here

    public static void main(String[] args)
    {

        System.out.println("A13 - Written by Matt Weisfeld");

        Scanner console = new Scanner(System.in);

        // Input Strings
        String divisor=null, dividend=null;
        int x=0,y=0, counter=1;

        while (true) {

            System.out.println("\nPass " + counter++ + " \n-----\n");
            System.out.print("Please enter the dividend (or 'x' to end): ");
            dividend = console.nextLine();
            System.out.println(dividend);

            if (dividend.equals("x")) {
                System.out.println("\nProgram Terminated by User");
                break;
            }

            System.out.print("\nPlease enter the divisor : ");
            divisor = console.nextLine();
            System.out.println(divisor + "\n");

            x=Integer.parseInt(dividend);
            y=Integer.parseInt(divisor);

            // Put code here

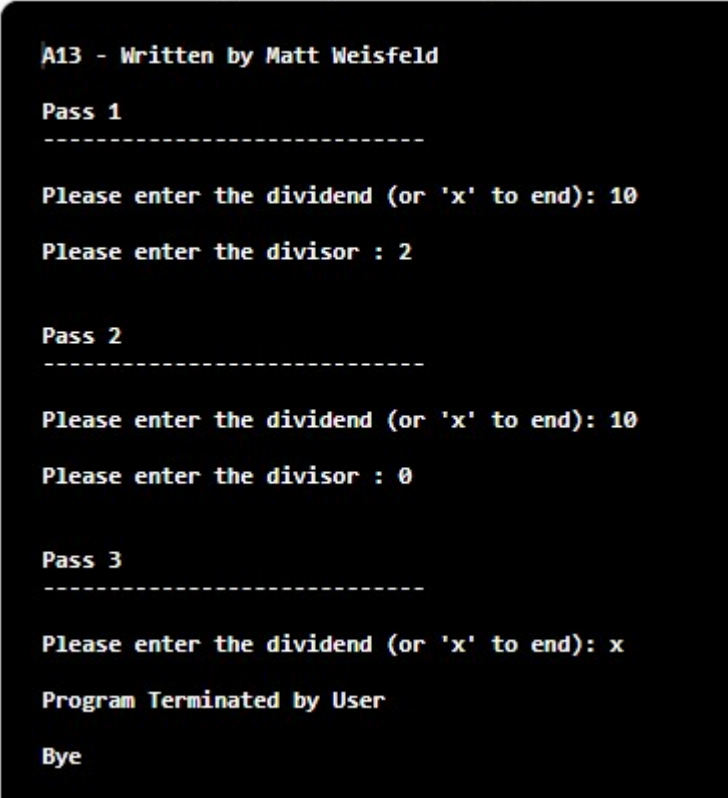
        }
```

```
System.out.println("\nBye");  
}  
}
```

Step 02 – Run the code (the output should look something like this)

### Result

CPU Time: 0.43 sec(s), Memory: 40032 kilobyte(s)



```
A13 - Written by Matt Weisfeld  
  
Pass 1  
-----  
  
Please enter the dividend (or 'x' to end): 10  
Please enter the divisor : 2  
  
Pass 2  
-----  
  
Please enter the dividend (or 'x' to end): 10  
Please enter the divisor : 0  
  
Pass 3  
-----  
  
Please enter the dividend (or 'x' to end): x  
Program Terminated by User  
  
Bye
```

Step 03 – Add the code

This code accepts 2 values from the user inside of a loop, one for a dividend and one for a divisor. The loop continues until the dividend equals 'x'.

Each time through the loop, your code must calculate the quotient (quotient =divisor/dividend) and print the result.

You must create a user defined exception called MyException. Here are the constraints:

- 1) Create a user defined exception called MyException.
- 2) Enclose the division (quotient =divisor/dividend) inside of a try/catch block.
- 3) Check to see if the divisor (in y inside of the code) is equal to zero.
- 4) If y is zero, then throw the user defined exception with the message "Attempted to divide by zero!".
- 5) In all cases, continue with the loop.

My test data will look like this:

```
10
2
10
0
X
```

So you should make sure your code works with this data as well (***but not just this data***).

All that you need to turn in is your final version of A13. So upload that single file to Blackboard.

Step 04 – When you run the code you will get something like the following output

### Result

CPU Time: 0.57 sec(s), Memory: 39836 kilobyte(s)

```
A13 - Written by Matt Weisfeld

Pass 1
-----

Please enter the dividend (or 'x' to end): 10
Please enter the divisor : 2
x / y = 5

Pass 2
-----

Please enter the dividend (or 'x' to end): 10
Please enter the divisor : 0
Attempted to divide by zero!

Pass 3
-----

Please enter the dividend (or 'x' to end): x
Program Terminated by User

Bye
```

Step 05 – Submit the updated file to A 12.

Submit the file to Blackboard.