Java
while loop worksheet #3

Name –

Period -

Trace the following loops with columns for each variable and circling the last value. Show the output in the rectangles. Write "compile error", "runtime error" or "infinite loop" where appropriate. The ++ operator adds one, the -- operator subtracts one and the % operator means modulus (like Mod in VB). The ! operator means Not, the != means "not equal to", and the == operator means "equal to". Note that these code segments do not necessarily use good style and follow our Coding Standards.

1.

```
int num = 7;

while (num > 3)
{
      System.out.println(num);
      num--;
}
```

num
7
6
5
4

7
6
5
4

2.

```
int num = 64;

while (num > 7)
{
      System.out.print(num);
      num /= 2;
}
```

num
64
32
16
8

64
32
16
8

3.

```
int num = 5;

while (num > 0)
{
      System.out.print(100 % num);
      num--;
}
```

num
5
4
3
2
1

0
0
1
0
0

4.

```
int num1 = 1, num2 = 1, num3 = 0;

while (num3 < 14)
{
      num3 = num1 + num2;
      num1 = num2;
      num2 = num3;
      System.out.print(num3 + ",");
}
```

num1 num2 num3

5.

```
int rows = 4, columns = 3;

while (rows > 0)
{
      while (columns > 0)
      {
          System.out.print("*");
          columns--;
      }
      rows--;
      columns = 3;
      System.out.println(); // moves cursor to next line
}
```

rows columns