

CMSC 113: Computer Science I Final Exam Practice Problems

1. Consider the following method. What will it print when called as `meth1(5, 12)`?

```
public void meth1(int a, int b)
{
    for(int i = a; i < b; i++)
    {
        System.out.println("1. " + i);
        i++;
        System.out.println("2. " + i);
    }
}
```

2. What will be printed if we run `meth2()`?

```
public void meth2()
{
    int[] nums = new int[3];
    nums[0] = 8;
    nums[1] = 3;
    nums[2] = 4;

    int[] others = meth3(nums);

    for(int x : nums) { System.out.println(x); }
    for(int x : others) { System.out.println(x); }
}

public int[] meth3(int[] stuff)
{
    for(int x : stuff) { System.out.println(x); }

    int[] bag = new int[2];
    stuff[0] = 10;
    bag[0] = stuff[1] - 1;
    bag[1] = stuff[2] + 2;

    return bag;
}
```

3. Write a function `maxDigit` that takes a positive `int` and returns the maximal digit of that number. So, `maxDigit(123)` returns 3 and `maxDigit(5280)` returns 8.

Write the function both iteratively (using a loop) and recursively (without using a loop).