

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. 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).

3. 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 i = 0; i < nums.length; i++)
    {
        System.out.println(nums[i]);
    }

    for(int i = 0; i < others.length; i++)
    {
        System.out.println(others[i]);
    }
}

public int[] meth3(int[] stuff)
{
    for(int i = 0; i < stuff.length; i++)
    {
        System.out.println(stuff[i]);
    }

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

    return bag;
}
```