1. What does the following program print?

```java
class ClassOne {
  String data = "go";
  public String get() {
    return data;
  }
  public String mystery() {
    return get()+" team";
  }
}
class ClassTwo extends ClassOne {
  String other = "home";
  public String get() {
    return other;
  }
}
```

```java
class OneTwoTest {
  public static void main(String[] args) {
    ClassOne one = new ClassOne();
    ClassTwo two = new ClassTwo();
    fiddle(one);
    fiddle(two);
  }
  static void fiddle(ClassOne x) {
    System.out.println(x.mystery());
  }
}
```

_____

_____

2. Write a method, rangeBuilder(), that takes two integer parameters m and n. The method should create an array of integers with n-m+1 elements. You may assume that n is greater than m. Fill the array with the integer values m, m+1, m+2, … n and return the filled array. For example if called with rangeBuilder(4,6), the method would return an array of 3 elements containing 4 at index 0, 5 at index 1, and 6 at index 2.

3. Fill in the blanks so that the method longest() returns the longest word in the array, which is then printed by main. For example if run with "java CmdArgs one two three four" the program would print "three" which is the longest word in the arguments passed to the program. (Caution: This is not the exact same problem as done on quiz 4 from last year which some of you may have studied, although obviously similar.)

```java
class CmdArgs {
  public static void main(String[] args) {
    System.out.println(longest(args));
  }
  static String longest(String[] words) {
    String max = "";
    for (int i = 0; i < words.length; i++) {

      if (words[i].length() > _____) {

      _____

      }
    }
    return _____;
  }
}
```

THERE ARE MORE QUESTIONS ON THE BACK

4. Write the `Potion` class needed by the following program in order to produce the output shown. Note it must work for other types of Potion as well, such as `new Potion("poison", 5)`. There is no need to check that the amount of potion is greater than zero.

```java
class PotionTest {
  public static void main(String[] args) {
    Potion potion = new Potion("healing", 10);
    System.out.println(potion); // prints healing:10
    potion.drink(3); // drink the specified amount of the potion
    System.out.println(potion); // prints healing:7
  }
}
```

5. What does the following program print?

```java
class TwoD {
  public static void main(String[] args) {
    char[][] data = {{'t', 'e', 's', 't'},{'i', 'n', 'g', '!'}};
    printMystery(data);
  }
  static void printMystery(char[][] pic) {
    for (int row = pic.length-1; row >= 0; row--) {
      for (int col = pic[row].length-1; col >= 0; col--) {
        System.out.print(pic[row][col]);
      }
      System.out.println();
    }
  }
}
```