Review Sections

• Sanjit Jhala:
  – Tuesday, March 18, 2-4 PM in BE105
• Karl Brandt:
  – Tuesday, March 18, 4-6 PM at Cowell CATS lab
• I will have my regular office hours on Wednesday, March 19

Quiz 5

• 20 Points possible
• Min: < 8
• Max: 19.5
• Average: 15
• Median: 15.5

Question 1

• What does this program print?

```java
class Q5P6 {
    public static void main(String[] args) {
        Point p1 = new Point(1, 2);  // 5, 6
        System.out.println("Before: " + p1);
        mystery(p1);
        System.out.println("Mystery: " + p1);
    }
    static void mystery(Point p) {
        p.setX(p.getX() + 10);  // 20
        p.setY(p.getY() + 20);  // 30
        System.out.println("After: " + p);
    }
}
```
Question 1

class Point {
    private int x, y;
    Point(int xCoord, int yCoord) {
        x = xCoord; y = yCoord;
    }
    void setX(int xCoord) { x = xCoord; }
    void setY(int yCoord) { y = yCoord; }
    int getX() { return x; }
    int getY() { return y; }
    public String toString() { return x + *, y; }
}

ANSWER:
Before: 1, 2 Before: 5, 6
Mystery: 11, 22 Mystery: 25, 36
After: 11, 22 After: 25, 36

Questions 2 and 3

• System.out.print() will fail if you try to print an object from a class that does not have a toString() method.
  ▶ False

• A constructor must have the same name as the name of its class
  ▶ True

Question 4

class Quiz5P4 {
    public static void main(String[] args) {
        String s = "Quiz 5";
        StringBuffer sbuf = new StringBuffer("CMPS12A ");
        System.out.println(s.charAt(s.length() / 2)); // 6
        sbuf.append(s);
        System.out.println(sbuf);
        String anotherOne = String.valueOf(2345);
        System.out.println(anotherOne.length()); // 4
    }
}

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2 4 5

Question 5

class Quiz5P5 {
    public static void main(String[] args) {
        StringBuffer sbuf = new StringBuffer("one ");
        mystery(sbuf);
        System.out.println(sbuf);
        mystery2(sbuf);
        System.out.println(sbuf);
    }
    static void mystery(StringBuffer sbuf) {
        sbuf.append("two"); // "ten"
    }
    static void mystery2(StringBuffer sbuf) {
        sbuf = new StringBuffer("three four"); // "thirty forty"
    }
}

Quiz 5 Quiz 5 Quiz 5 Quiz 5
one two ten twenty
Question 7

- Write statements in class CounterTest to use class Counter. Your statements should do the following:
  1. Create a Counter with an initial value of 10 (25)
  2. Decrement (Increment) the Counter value
  3. Print out how many counters there are.

```java
class Counter {
    private int value;
    private static int howMany = 0;
    public Counter() { value = 0; howMany++; }
    public Counter(int v) { value = v; howMany++; }
    public void reset() { value = 0; }
    public void increment() { value++; }
    public void decrement() { value--; }
    public int get() { return value; }
    public static int howMany() { return howMany; }
}
```

```java
class CounterTest {
    public static void main(String[] args) {
        Counter c = new Counter(10);      //(25)
        c.decrement();                    // c.increment();
        System.out.print(Counter.howMany());
    }
}
```

Question 4

If you don’t define an access specifier when you define an instance method of a class, then

A. The method can be called from anywhere.
B. The method can be called only from other methods in the same class.
C. The method can be called from any class contained in the same directory.
D. javac will report an error because every instance method definition must include an access specifier.

Answer: C

Question 8

```java
class Quiz5P5 {
    public static void main(String[] args) {
        StringBuffer abuf = new StringBuffer("one ");
        mystery(abuf); // "ten"
        System.out.println(abuf);
        mystery2(abuf);
        System.out.println(abuf);
    }
    static void mystery(StringBuffer abuf) {
        abuf.append("two"); // "twenty"
    }
    static void mystery2(StringBuffer abuf) {
        abuf = new StringBuffer("three four");
        // "thirty forty"
    }
}
```

```
one two ten twenty
one two ten twenty```
Question 8

- Create the class Date needed by the following program, so that the output of the program is the single line 3/7/2003.

```java
class DateTest {
    public static void main(String[] args) {
        Date today = new Date(3, 7, 2003); // month, day, year
        System.out.println(today);
    }
}
```