**Jeopardy**

**Final Exam Review**

## Fundamental – 200 Points

**QUESTION:**
- It is the type of the result when adding an int and a byte.

**ANSWER:**
- What is int?

## Fundamental – 400 Points

**QUESTION:**
- The reason this line of code won't compile:
  ```java
  char ch = 'G' + 10.5;
  ```

**ANSWER:**
- What is the result a double?
**Question:**

You have an int variable called seconds. You also have a timer that fires every second. In the event handler for the timer, this is the arithmetic operation, used in conjunction with +, that keeps the seconds value in the range 0 to 59.

**Answer:**

What is mod?

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**Question:**

The reason this code will always print a message:

```java
int r = (int)(Math.random() * 2);
if(r == 1); {
    System.out.println('r is odd');
}
```

**Answer:**

What is the semicolon at the end of the if statement?

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**Question:**

The output from this code:

```java
boolean b = true;
while(b) {
    if(!b) {
        System.out.println;b;
    } else {
        b = !b;
        System.out.println(!b);
    }
}
```

**Answer:**

What is true?

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**Question:**

An equivalent and more concise while loop:

```java
int i = 10;
while(i < 20) {
    i = 9;
}
```

**Answer:**

What is while(true)?

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Loops – 400 Points

**QUESTION:**

• The number of iterations of this loop:
  \[
  \text{for(int } i = 1024; i > 1; i = i/2) \\
  \{ \\
  \ldots \\
  \}
  \]

**ANSWER:**

• What is 10?

Loops – 600 Points

**QUESTION:**

• The number of times ‘foo’ is printed:
  \[
  \text{for(int } i = 0; i < 15; i++) \\
  \text{for(int } j = 0; j < 10; j++) \\
  \text{System.out.println(“foo”);} \\
  \]

**ANSWER:**

• What is 150?

Loops – 800 Points

**QUESTION:**

• The number of times ‘foo’ is printed:
  \[
  \text{for(int } i = 1; i < 100; i++) \\
  \text{for(int } k = 0; k < 100; k++) \\
  \text{System.out.println(“foo”); } \\
  \]

**ANSWER:**

• What is infinitely many?

Loops – 1000 Points

**QUESTION:**

• The number of times ‘foo’ is printed:
  \[
  \text{for(int } i = 1; i < 100; i *= 2) \\
  \text{for(int } j = 0; j < i; j++) \\
  \text{System.out.println(“foo”);} \\
  \]

**ANSWER:**

• What is 127?
QUESTION:
• The Java command that increases the size of an array.

ANSWER:
• What is there isn’t one? Array size is determined when it is instantiated and can’t be changed.

QUESTION:
• Consider accessing every element in ragged 2-D array A. This is the loop condition required in the inner for loop.

ANSWER:
• What is A[[]].length?

QUESTION:
• The line of code required to give the following array a size of 10:
  int[] values;

ANSWER:
• What is values = new int[10]?

QUESTION:
• A way to instantiate an array without using “new”.

ANSWER:
• What is enumerating the values? {val_1, val_2, ..., val_n}
**Arrays – 1000 Points**

**QUESTION:**
• Consider 1-D array arr. This is a single loop (with only one line) that puts in each array element arr[i] the sum of elements 0 to i.

**ANSWER:**
• What is:
  ```java
  for(int i = 1; i < arr.length; i++)
  arr[i] += arr[i-1];
  ```

**Classes – 200 Points**

**QUESTION:**
• The method that creates a class instance.

**ANSWER:**
• What is constructor?

**Classes – 400 Points**

**QUESTION:**
• The Java keyword that establishes an inheritance relationship.

**ANSWER:**
• What is extends?

**Classes – 600 Points**

**QUESTION:**
• A reasonable call to the method below:
  ```java
  public class Foo {
      public static int getBar() {
          return bar;
      }
  }
  ```

**ANSWER:**
• What is int x = Foo.getBar();?
QUESTION:
Consider the Vehicle class hierarchy. The Car class overrides the print method from the Vehicle class. The line of code in the Car print method that invokes the Vehicle print method.

ANSWER:
- What is super.print()?

QUESTION:
The error that results from the following:
```java
class Foo {
    Window win;
    public Foo() {
        Window win = new Window(500, 500);
    }
    public void methodA() {
        win.getWidth();
    }
}
```

ANSWER:
- What is NullPointerException?

QUESTION:
The Java feature that allows multiple methods with the same name within a class.

ANSWER:
- What is overloading?

QUESTION:
The truth table values for the last column:
```
| p | q | (p || q) & (p || q) |
|---|---|---------------------|
| F | F | F                   |
| F | T | T                   |
| T | F | T                   |
| T | T | T                   |
```

ANSWER:
- What is F, T, F, T?
QUESTION:

• The range of values for the following expression:
  int x = (int) Math.random() * 10 + 5;

ANSWER:

• What is 5?

QUESTION:

• Types to which a char can be explicitly cast.

ANSWER:

• What are byte, short, int, long, float, double?

QUESTION:

• Two Ferraris leave La Crosse headed west. After 2 hours, one turns north and the other south. Each continues for 100 miles at which time they both stop for fuel. One averaged 12 mpg while the other managed 14 mpg. What colors are the cars?

ANSWER:

• What is red? For Ferraris, it’s always red.