FPP Quiz #1

1.
```
class MyClass {
   static int amount = 1;
   public static void main(String[] args) {
      System.out.println(this.amount);
   }
}
```

What happens when the program is compiled/run?

a. Compiler error
b. Runtime error
c. Outputs 1 to the console
d. Outputs 0 to the console

2.
```
class MyClass extends MySuperClass {
   public static void main(String[] args) {
      MySuperClass cl = new MyClass();
      System.out.println(cl.getType());
   }

   public int getType() {
      return 3;
   }
}
class MySuperClass {
   public int getType() {
      return 2;
   }
}
```

What happens when the program is compiled/run?

a. Compiler error
b. Runtime error
c. Outputs 2 to the console
d. Outputs 3 to the console

3.
```
class MyClass extends MySuperClass {
   public static void main(String[] args) {
      MySuperClass cl = new MySuperClass();
      System.out.println(cl.getType());
   }

   public int getType() {
      return 3;
   }
}
class MySuperClass {
   public int getType() {
      return 2;
   }
}
```

What happens when the program is compiled/run?

a. Compiler error
b. Runtime error
c. Outputs 2 to the console
d. Outputs 3 to the console

4.
```
class MyClass {
   public static void main(String[] args) {
      new MyClass();
   }
   MyClass() {
      System.out.println(value);
   }
   class MyInnerClass {
      private int value = 3;
   }
}
```

What happens when the program is compiled/run?

a. Compiler error
b. Runtime error
c. Outputs 3 to the console

5.
```
class MyClass {
   public static void main(String[] args) {
      new MyClass();
   }
   private int value = 3;
   MyClass() {
      MyInnerClass c = new MyInnerClass();
      System.out.println(c.compute());
   }
   class MyInnerClass {
      private int compute() {
```

```
            return value;
         }
      }
   }
```

What happens when the program is compiled/run?

a. Compiler error
b. Runtime error
c. Outputs 3 to the console

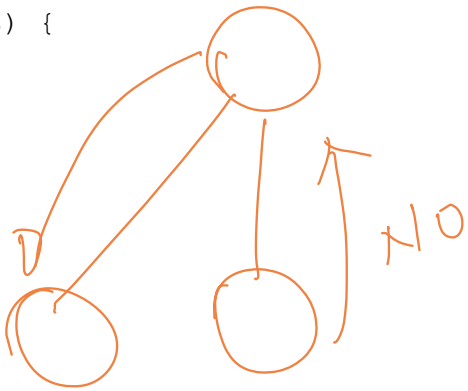
6.
```
class MyClass {
   public static void main(String[] args) {
      new MyClass();
   }
   private int value = 3;
   MyClass() {
      MyNestedClass c = new MyNestedClass();
      System.out.println(c.compute());
   }
   static class MyNestedClass {
      private int compute() {
         return value;
      }
   }
}
```

What happens when the program is compiled/run?

a. Compiler error
b. Runtime error
c. Outputs 3 to the console

7.
```
class MyClass {
   public static void main(String[] args) {
      MyClass cl = new MySubClass();
      System.out.println(cl.compute());
   }
   private int value = 3;
   public int compute() {
      return value;
   }

}
class MySubClass extends MyClass {
   MySubClass() {}
   public int compute() {
      return (new MyInnerClass()).compute();
   }
   class MyInnerClass {
      private int compute() {
         return value*value;
      }
   }
```



```
}
```

What happens when the program is compiled/run?

a. Compiler error
b. Runtime error
c. Outputs 3 to the console

8.
```
class TheClass {
    TheClass(){
       TheSubclass sub = new TheSubclass();
       System.out.println("The Class constructor");
    }
    public static void main(String[] args){
       new TheSubclass();
    }
}
class TheSubclass extends TheClass {
    TheSubclass() {
       System.out.println("The Subclass constructor");
    }
}
```

What happens when the program is compiled/run?

a. Compiler error
b. Outputs "The Subclass constructor" followed by "The Class constructor".
c. Outputs "The Class constructor" followed by "The Subclass constructor".
d. Stack overflow exception

9.
```
public class TheClass {
    private int value =5;
    public int getValue() {
       return value;
    }
    private static TheSubclass clsub;
    public TheClass() {
    }
    public class TheInnerClass {
       public int evaluate() {
          return value;
       }
    }
    void run() {
       TheClass.TheInnerClass inner =
                   clsub.new TheSubInner();
       System.out.println(inner.evaluate());
    }
    public static void main(String[] args){
       clsub = new TheSubclass();
```

```
        clsub.run();
    }
}
class TheSubclass extends TheClass {
    private int value = getValue()+1;
    public class TheSubInner extends TheClass.TheInnerClass {
        public int evaluate() {
            return super.evaluate()+value;
        }
    }
    TheSubclass() {}
}
```

What happens when the code is compiled/run?

a. Outputs 5 to console
b. Outputs 6 to console
c. Outputs 11 to console
d. Runs, but ouputs nothing to the console
e. Compiler error
f. Runtime exception

10. Consider the following code:

```
public class Main {
    String managerInfo = (new Employee("Manager", 200000) {
        //a percentage increase applied to salary
        double bonus;
        {
            bonus = .05;
        }
        int computeSalaryWithBonus() {
            return (int)((1+bonus) * getSalary());
        }
        @Override
        public String toString() {
            return "name : " + getName() + "\n"
                    + "  base salary : " + getSalary() + "\n"
                    + "  bonus : " + bonus +"\n"
                    + "  actual salary : " + computeSalaryWithBonus
        }

    }).toString();

    public static void main(String[] args) {
        Main m = new Main();
        System.out.println(m.managerInfo + "\n\n");
    }
}
```

What happens when the main method is compiled and run?

A. There is no output
B. Compiler error
C. Runtime exception
D. A string is printed to the console giving information about a Manager object

(continued on next page)

```java
public class Employee {
    private String name;
    private int salary;
    public Employee(String n, int s) {
        this.name = n;
        this.salary = s;
    }
    public String getName() {
        return name;
    }
    public int getSalary() {
        return salary;
    }
}
```