Name:

ID#:

Sec#:

Instructor:

Question #	Max Score	Score
1	30	
2	15	
3	15	
4	40	
Total	100	

Question # 1

What is the output of the following programs or error if any?

Program	Output

<pre>public class MidtermQ1A {
    public static void main(String[] args) {
        f("ICS", 2);
    }
 	
    public static void f(String s, int index) {
        if (index >= 0) {
            System.out.print(s.charAt(index));
            f(s, index - 1);
            System.out.print(s.charAt(index));
            f(s, index - 2);
 	
        }
    }
}</pre>	

<pre>public class MidtermQ1B{
    public static void main(String [] args){
        new Child(50);
    }
}
class Child extends Parent{
    Child(int n){
        System.out.println("Child " + n);
    }
}
class Parent{
    Parent(int n){
        System.out.println("Parent " + n);
    }
}</pre>	

<pre>public class MidtermQ1C {
    public static void main(String[] args) {
        try {
            sampleMethod(99);
        } catch (Exception e) {
            System.out.println("Caught in main.");
        }
    }
 	
    public static void sampleMethod(int n) {
        try {
            if (n > 0)
                throw new Exception();
            else
                System.out.println("No exception.");
            System.out.println("Still in sampleMethod.");
        } catch (Exception e) {
            System.out.println("Caught in sampleMethod.");
        } finally {
            System.out.println("In finally block.");
        }
        System.out.println("After finally block.");
    }
}</pre>	

Question # 2

Complete the following classes as specified in the comments:

```java
class Outer {
      public class Inner1 {
      }

      public static class Inner2 {
      }

}

public class MidtermQ2 {
      public static void main(String[] args) {
            // 1. make an object from the class Inner1 in a variable of type Inner1


            // 2. make an object from the class Inner2 in a variable of type Inner2


      }
}
```

Question # 3

Write a static recursive method that returns the maximum of an integer array

Question # 4

- Create a class called Vehicle that contains fields for the vehicle's maximum speed and number of wheels. Provide both a no-argument constructor and a two-argument constructor. Provide accessor(get) and mutator (set) methods for the fields.
- Create a subclass of Vehicle called Bicycle that contains a field for the number of gears on the bike. All bikes should have two wheels. Add a toString() method to both the Vehicle class and the Bicycle class. Have Bicycle's toString() use Vehicle's toString
- In a test class, declare an array of three Vehicles. Make the first two elements Bicycle objects: a 10-speed and a 3-speed. Make the third element just a Vehicle object. Write a loop that runs through the array, printing each object. Which toString() is called each time?
- What happens if you change the array's type to Object?
- What happens if you change the array's type to Bicycle