

Java Programming 35a Midterm

Question 1

Consider the following data in an array:

```
34 22 21 56 32 1 12 -5 77 8
```

Apply selection sort to the above data set and show the results after 5th iteration.

Question 2:

Create a class called MusicCollection that has instances of classes called Artist and Recording.

Recording class has an instance variable called Track that represents a single piece of music within a recording.

MusicCollection must have an array of Artists and an Array of Recording Objects.

Each Recording can only have a single artist and an array of Track Objects. Add a main() method to test the creation of all of these objects.

Note: Please provide a complete class definition for each including constructors, getter and setters.

Question 3:

Consider the following array:

```
{41, 26, -14, 15, 74, 49, 10, 19, -13, 12}
```

Use insertion sort and show the data after the 6th iteration.

Question 4:

What is the output of the following Java program?

```
class Acura
{
    Acura (String s)
    {
        System.out.println("Acura " + s);
    }
}
class Honda
{
    Honda (String s)
    {
        System.out.println("Honda " + s);
    }
}
public class Cars
{
```

```

    public static void main(String args[])
    {
        Acura integra = new Acura ("Civic");
        Honda civic = new Honda ("Integra");
        Honda accord = new Honda ("Porsche");
    }
}

```

Question 5:

Write a function to find even numbers between 0 and 100, using a while loop. The function should then print odd numbers between 201 to 250. (Note: 0 is an even number).

Question 6:

Review the following code snippets. If code correction is need, provide the correction on your answer sheet and state the output.

If you provide your detailed strategy for your response, you have a higher chance of getting partial credit.

a. Given this code fragment:

```

int sum = 0 ;
for (int i = 1 ; i <= 5 ; i++)
    if(i==2)
        sum += i ;
    else
        sum = sum + i * 2;

```

What is the value of sum, after the code is executed?

b. Given the code fragment:

```

int c;
c = 4.8 + 2;
What is the value of c?

```

c. What are the data types of the following constants?

```

3.14f
1.56
'a'
"true"

```