

COSC 201 – Assignment #2

Fall 09

Objective: Create a program that will perform three sorts on a set of data: Merge Sort, Shell Sort and Quick Sort. The set of data will be an ArrayList of Cars and you will need to create the Car class yourself. You will also time each of the executions of these sorts and print out the time it took for each of these sorts. I will provide you the code for the timing.

Expectations: Your code will need to be neat, concise, well documented and above all, correct (see Testing).

The Car Class: The car class will contain three fields: make, model and vin. Make and model are Strings and vin is an integer. Make sure that you include get and set methods for all three of these as well as a useful constructor. You do not need to code your own comparator. You will compare two cars by their vin number only.

Testing: You will need to provide some sort of input functionality that allows me to input make, model and vin as many times as I desire. Note that this includes 0. I will test your program with invalid inputs as well so make sure to catch any errors. Also, I will test it using 0 cars. Each of these inputs will be used to populate the ArrayList.

Sample Output:

```
PLEASE ENTER A CAR MAKE (QUIT TO QUIT): QUIT
THERE WERE NO CARS TO SORT!
```

```
PLEASE ENTER A CAR MAKE (QUIT TO QUIT): HONDA
PLEASE ENTER A CAR MODEL: CIVIC
PLEASE ENTER A VIN: 3456
```

```
PLEASE ENTER A CAR MAKE (QUIT TO QUIT): KIA
PLEASE ENTER A CAR MODEL: RIO
PLEASE ENTER A VIN: 1134
```

```
PLEASE ENTER A CAR MAKE (QUIT TO QUIT): FORD
PLEASE ENTER A CAR MODEL: THUNDERBIRD
PLEASE ENTER A VIN: 40
```

```
PLEASE ENTER A CAR MAKE (QUIT TO QUIT): QUIT
```

```
SORTED BY QUICKSORT:
FORD THUNDERBIRD 40
KIA RIO 1134
HONDA CIVIC 3456
TIME: 12MS
```

```
...
```

Grading rubric will be given out at least a week ahead of the due date.

DUE: November 11th by 11:59pm.