

CS 1181 - Computer Science II

Practice Problem: Comparable Golfers

Purpose: To review interfaces and ArrayList usage.

Part A:

Your task is to write a class called Golfer. Your class should have the following fields and methods:

- private String firstName
- private String lastName
- private int score (the golfer's score so far this round, more negative is better)
- private int holesCompleted (the number of holes the golfer has completed so far this round)
- public Golfer – constructor that initializes the fields of this object
- public String toString – returns a String of the form: `lastName, firstName: score with holesCompleted holes completed`

You also need to create a class called Driver.java with a main method. In main:
* Create three Golfer objects * Put the golfer objects into an ArrayList * Print out the ArrayList

Part A example output:

```
[Smith, Jay: -13 with 17 holes completed, Smith, DeShaun: -11 with 16 holes completed, Taylor, John: -12 with 2 holes completed]
```

Part B:

Revise your Golfer class so that it also implements the Comparable interface. Golfers should be sorted first by score (more negative comes first), then by the number of holes completed (higher comes first), then lexicographically by last name (ignoring case) and finally lexicographically by first name (ignoring case).

Augment the main method in your Driver.java class so that it does all of the following: * Create three Golfer objects * Put the golfer objects into an ArrayList * Print out the ArrayList * Sort the ArrayList * Print out the ArrayList a second time

Golfer	Score	holesCompleted	Reason for Placement
Brooks, Michael	-12	15	Most negative score (-12), highest holesCompleted (15)
Daniels, Amy	-12	14	Tied on score (-12), but lower holesCompleted

Golfer	Score	holesCompleted	Reason for Placement
Adams, Sarah	-10	15	Less negative score than above (-10)
Adams, Abby	-8	16	Least negative score (-8)
Collins, Peter	-8	16	Lexicographically after Adams, with same least negative score

Part B example output:

[Adams, Sarah: -10 with 15 holes completed, Brooks, Michael: -12 with 14 holes completed, C

[Brooks, Michael: -12 with 15 holes completed, Daniels, Amy: -12 with 14 holes completed, A

Rubric:

[/1] Documentation

[/1] Part A correct

[/1] Part B