

CS-1181 Lab Problem 2: Comparable Golfers

PURPOSE: To review interfaces and ArrayList usage.

DIRECTIONS:

Part A (Due by end of first lab session)

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; // golfer's score so far this round, more negative is better
private int holesCompleted; // number of holes golfer has completed so far this round

// constructor that takes in four parameters to initialize the fields of this object
public Golfer() {}

// returns a String of the form:
// `lastName`, `firstName`: `score` with `holesCompleted` holes completed
public String toString() {}
```

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`

EXAMPLE:

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

Sorting table

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

For full credit, ensure that your program is well commented and follows JavaDoc standards for your method(s). Comments are only required for the Part B segment of the lab.

EXAMPLE:

```
[Adams, Sarah: -10 with 15 holes completed,
Brooks, Michael: -12 with 14 holes completed,
Collins, Peter: -8 with 16 holes completed,
Daniels, Amy: -12 with 15 holes completed,
Adams, Abby: -8 with 16 holes completed]

[Brooks, Michael: -12 with 15 holes completed,
Daniels, Amy: -12 with 14 holes completed,
Adams, Sarah: -10 with 15 holes completed,
Adams, Abby: -8 with 16 holes completed,
Collins, Peter: -8 with 16 holes completed]
```

RUBRIC:

- [1pt] Documentation
- [1pt] Part A correct
- [1pt] Part B correct