Assignment 4

Due time: 03/06/2022, 11:59pmTotal credits: 100, 4 questions

Submission guide:

1. Create a folder and name it with the format FirstName_LastName_Aassigment4 for example Chunyu_Yuan_Assignment4

2. Inside the folder, you should have 4 java files (Player.java, Person_information.java, Club_information.java, TestPlayer.java)

3. compress your file to .zip format and submit it to the blackboard,

4. if you have any question, please send email to cyuan1@gradcenter.cuny.edu

1. design and implement Club_information Class (20 credits)

Requirements:

- **Two data fields:**
  - **team, type private String, initialize it to “”**
  - **position, type private String, initialize it to “”**
- **One constructor: one constructor with argu(String Team, String Position)**
- **Five methods:**
  - **getTeam() return String**
  - **getPosition() return String**
  - **setTeam(String Team) void, set the Team**
  - **setPosition (String Position) void, set the Position**
  - **toString(), return String, the club information in below format for example: (“Club information => Team: BAL, Position: Catcher”)**

3. design and implement Person_information Class (20 credits)

Requirements:

- **Three data fields:**
  - **age, type private double, initialize it to 0,(Because the txt records are double format, so we make it as double)**
  - **height, type private double, initialize it to 0**
  - **weight, type private double, initialize it to 0**

- **One constructor: one constructor with argu(double age, double height, double weight)**
- **Nine methods:**
  - **getAge() return double**
  - **getHeight() return double**
  - **getWeight() return double**
  - **setAge(double age) void**
  - **setHeight(double height) void**
  - **setWeight(double weight) void**
  - **getBMI() return double (you can refer the example code in the class)**
  - **getBMIStatus() return String (you can refer the example code in the class)**
  - **toString(), return String, the person information in below format for example: ("Person information => Age: 22.99, Height(inches): 74, Weight(lbs): 180")**

2. design and implement Player Class (20 credits)

Requirements:

- **Three data fields:**
  - **name, type private String**
  - **person_information, type private Person_information**
  - **club_information, type private Club_information**

- **One constructor: one constructor with argu(String name, Person_information person_information, Club_information club_information)**
- **Nine methods:**
  - **getName() return string**
  - **getPerson_information () return Person_information Object**
  - **getClub_information () return Club_information Object**
  - **toString(), return String (contains name, person information, club information)**

4. design and implement TestPlayer Class (40 credits)

Based on modifying the example code "ReadFile", you need to read the mlb_player.txt. For each record (except the title " Name, Team, Position, Height(inches), Weight(lbs), Age"), it will be one player object. (hint: Firstly, you have to split the record to string array. Then based on the string array to create the player object. And you have to transfer some strings to double value like height, weight, and age.)

Requirements:

- **use an arraylist to store the player objects.**
- **please answer the following questions:**
  - **How many players are there in your arraylist? (you can print out like "Number of players: 10", it is just one example, not the final answer.)**
  - **How many players whose age is less than 25 (<25)? (you can print out like "Number of players <25 : 10", it is just one example, not the final answer.)**
  - **How many players whose age is less than 30 and greater than or equal 25 (>=25 and <30)? (you can print out like "Number of players >=25 and <30 : 10", it is just one example, not the final answer.)**
  - **How many players whose age is less than 40 greater than or equal 30 (>=30 and <40)? (you can print out like "Number of players (>=30 and <40): 10", it is just one example, not the final answer.)**
  - **How many players whose bmi status in underweight? (you can print out like "Number of players in underweight: 10", it is just one example, not the final answer.)**
  - **How many players whose bmi status in healthy? (you can print out like "Number of players in healthy : 10", it is just one example, not the final answer.)**
  - **How many players whose bmi status in overweight? (you can print out like "Number of players in overweight : 10", it is just one example, not the final answer.)**

- **How many players whose bmi status in obese? (you can print out like “Number of players in obese : 10”, it is just one example, not the final answer.)**