

Practice Exercise on Collections

1. Create a Student class with following members and methods.

-int	regNo
-String	fullName
-Date	dob
-String	branch
-float	CGPA
-short	yearOfPass

void displayProfile()

2. Create a class MyTeam with a member

List<Student> team

and create a zero argument constructor to initialize the team member with 10 different student objects.

3. Add the following instance methods to MyTeam class

void sortAndPrintByDOB()	-Sort the students by their dob and print
void sortAndPrintByCGPA()	-Sort the students by their CGPA -use Lambda

4. Create a class MyBatch with a member

HashMap<Student,<HashMap<int,float>> semWiseMarks

And add constructor to initialize the semWiseMarks member with atleast 4 semester marks.

5. Add the following method

void displaySemWiseMarks() -Display sem wise score for all students

6. Write a class MyGameTeam extending MyTeam class with following Members and methods

Queue<GameScore> gameScores -member to store different game scores

void setScore(GameScore gscore) -to set the score to gameScores

GameScore getScore() -to read the score from gameScores

```
class GameScore{
    String gameName;
    int score;
}
```

7. Create a PlayerThread class with the constructor to accept MyGameTeam as an object

and add some random scores to the recieved MyGameTeam object through `setScore()` method under the `run()` method of thread.

8. Create a `ScoreReaderThread` class with the constructor to accept `MyGameTeam` as an object and read the scores of `MyGameTeam` object.

9. Write a class to demonstrate the usage of concurrent Queue by adding different gamescores by different `PlayerThreads` and subsequently read the scores **by using `ScoreReaderThread`**.