

**CMPE 226 HomeWork1**  
**(Due:27.12.2020 midnight)**  
**1 of 2 HomeWorks**  
**5 Points**

Write a program that will utilize the Linked List to perform the following tasks defined below.,

The program will keep track of all the data about marathon runners and their previous runs. Each **Runner** will have a **name** (string), a List of **ScoreInfo** (LinkedList) and their single **Best Average Running Time** for 1km for all time (float seconds).

Each **ScoreInfo** will consist of **distance** in kilometers (integer) and the **running time** in minutes (integer).

In the main, ask user to select how many Runners they want to create (maximum 10) and create an array of Runners for the selection size.

For each Runner, fill their attributes as shown in the sample run below. The score of the previous runs will be kept as ScoreInfo objects inside a LinkedList on Runner class. Each node of the score linked list will have a single ScoreInfo object.

Prompt the user to get the number of previous runs a runner made to fill all their scores.

Display all the previous running times for all the Runners.

Calculate their Best average Running time of 1 KM according to their previous Run scores, store them in the Runner objects and Display them as shown in the sample run below.

**Note:** You must implement “**LinkedList.h**” library. The implementation can be found in the Moodle page as **LinkedList v0.4**

***Sample Run:***

How many runner information will you enter: 2

Name of the Runner 1: **Baris**

How many previous run does Baris have: 5

Enter Baris's scores

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Run 1:

Distance(km): **10**

Running Time(minutes): **66**

Run 2:

Distance(km): **5**

Running Time(minutes): **30**

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Name of the Runner 2: **Melih**

How many previous run does Melih have: 3

Enter Melih's scores:

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Run 1:

Distance(km): **11**

Running Time(minutes): **60**

Run 2:  
Distance(km): **3**  
Running Time(minutes): **25**  
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Baris's Runs:  
Distance(km): 10 Running Time(minutes): 66  
Distance(km): 5 Running Time(minutes): 30  
. . . .

Melih's Runs:  
Distance(km): 11 Running Time(minutes): 60  
Distance(km): 3 Running Time(minutes): 25  
. . . .

Baris's best average running time for 1 km:4.6  
Melih's best average running time for 1 km:5.45