TED UNIVERSITY

Lab Assignment 04 - Prelab
CMPE 252 C Programming, Spring 2021
Due: 18.05.2021, 23.59

You are asked to write a program which keeps the list of skaters in a text file with their name, surname and 6 scores earned from referees. Please check the content of the example skaters.txt file below. Follow the below steps in your program:

Create **skater_t** structure with 4 members:
- 2 char arrays for name and surname (assume that the length of each field is at most 20)
- 1 double array for keeping referee scores
- 1 double for keeping the average score

Write 5 functions:
- double calculateAverageScore(const skater_t *skater);
  calculateAverageScore function *gets* a pointer to a constant skater_t, calculates the average score of the skater and *returns* it. The minimum and the maximum values of the six referee points will be excluded while computing the average.

- int scanSkater(FILE *filep, skater_t *skaterp);
  scanSkater function *gets* a pointer to FILE and a pointer to skater_t. Reads name, surname and referee points from the file, and fills skater_t pointed to, by skaterp. Returns 1 if the read operation is successful; otherwise, returns 0.

- int loadSkaters(skater_t skaters[]);
  loadSkaters function *gets* an array of skater_t. Opens the text file with the entered name. For each array element, reads data by calling scanSkater function and computes the average score by calling calculateAverageScore function. Stops reading when scanSkater function returns 0. *Returns* the number of read skaters.

- int findPrintWinner(skater_t skaters[], int numOfSkaters);
  findPrintWinner function *gets* an array of skater_t and the number of skaters. Finds the winner according to the average score, prints it by calling printSkater function and *returns* its index in the array.

- **main** function is where you declare an array of skaters and call loadSkaters function, print all skaters suing printSkater function and call findPrintWinner function.

Content of skaters.txt:

Maria Solevaya 4 4 5 6 4 5
July Son 6 5 5 5 6 6
Alexandra Tatia 5 5 6 6 4 5
Joan Jung 4 4 5 3 3 4

Sample Output:

```
Enter the file name to read: skaters.txt
Opening skaters.txt
Loading complete
Closing skaters.txt
Skaters:
Maria Solevaya 4.50
July Son 5.50
Alexandra Tatia 5.25
Joan Jung 3.75
Winner:
July Son 5.50
```