Assignment #5

Objective: Write a bash shell script to construct a class grade report.

Sample of the grade (OUTPUT) report file:

<div align="center">

```
******************************
```
Class Grade Report
Spring 2020
```
******************************
```

</div>

Name	Quiz	Homework	Midterm	Final	Score	Grade
Jones	90	100	74	75	84	B
Bob	80	95	82	93	92	A-
John	70	99	87	98	96	A
Eric	90	80	83	70	76	C
Frank	80	85	86	83	88	B+

Notes:

1. The average grade for each student is computed as the following

    grade = gradeQ*0.1+ gradeH*0.4 + gradeM*0.2 + gradeF*0.3

2. The average grade and course final grades for each student are computed by using **awk**.

Requirements

A) Name the shell script as: your lastname_firstname (lowercase please!!!!) with the suffix .sh, such as **lin_amy.sh**.

B) The script needs take **two command line arguments** in the following order

- FIRST: the awk script used to do the grade computation: **grade.awk**.

- SECOND: the name of the output report file to be saved, such as **report.txt**

The bash script must check if the two arguments provided, if not, print out an USAGE info and exit with a non-zero error code.

- Check if the needed awk script exists, if not, warn the user, and exit with another non-zero error code

- Check if the grade report file exists. If yes, the new to-be-collected data must be appended to the existing report.

C) The bash script

The bash script will display the grade report to screen first if it exists, then ask if user wants to enter a student record,

- a "yes" response will prompt user to enter student's name, then it will loop the grade type (**Q M H F**) and ask user to select the type of grade and enter the corresponding grade (you can use **select or for loop** for this). The script needs to validate the entered score (contains 0-9 digits only and 0<=score<=100.)

    When all the types of grades (Q, M, H, F) for this student are entered, the student average grade should be displayed to the screen (must be computed by the awk script). Meantime, the student information and the computed grade will be written to the report.txt

- A "no" answer will stop recording student grade information, display all the current records in the grade report file report.txt to the screen, and exit.

D) The awk script (grade.awk) shall "read" the newly-entered student's grades (all the types of grades) and return the average grade and grade letter to the bash script.

You can do the following to get the grade from an awk program: **grade=$(echo $line |awk -f grade.awk)**, where variable "**line**" is a list of type and scores separated by white space, such "Q 100 H 90 M 95 F 80" or just the scores if your awk script knows the order. The value assigned to grade should be something like "**96 B**

E) The bash script should allow user to modify existing student's record in case the data file exists and contains the record for that student.

After user entered student name, the bash script will check if such name exists in the grade report. If yes, it should display the student record (sed or grep will do), then display each of the grade during the grade input loop; ask if it needs to be updated. At the end of input for this student, the previous record will be replaced by the newly input one (the "c" command of sed, or you can use "d" to remove the record, then add the updated one to the report.txt).

What to turn in (No hard copy needed)

1. Create a directory hw5 under your cs390 repository, and work under it.
2. hw5 shall include at least the following three files:
    - The bash script **yourlastname_yourfirstname.sh (lower-case PLEASE!!!)**
    - The awk script program **grade.awk**
    - The grade report file. **report.txt**

Remember to update your cs390 repository on gitlab with "git push" before 11:59 PM on due date