COMP1B & COMP1D Project (Alison)

New Attempt

Due 8 Dec by 18:00 **Points** 100 **Submitting** a file upload
File types 7z and zip **Available** 20 Nov at 11:00 - 22 Dec at 18:00

Submission: Create a folder, naming that folder your own name, to which you add your Python file and your 5 language text files. Compress the folder and upload it here when ready.

Due: 8th December at 18:00

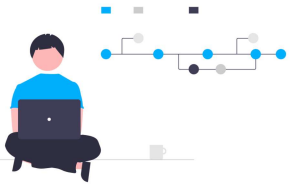
Late Penalties:

- up to 7 days late, mark is reduced by 10 (so if you get 55% your mark becomes 45%)
- up to 14 days late, mark is reduced by 20 (so if you get 55% your mark becomes 35%)
- after 14 days you got 0%

Restrictions: You cannot use anything which has not been covered during this semester in SOFT6018. Other than tuples and lists for reading from a file, collections cannot be used.

Warning: The code must be written entirely by you. It must be your own best, independent effort. We reserve the right to conduct an interview with the student to authenticate and confirm that the provided code is their own work. Failure to engage with this process will result in referral to the Examinations Infringements Board.

Write a program that runs a practice quiz for students.



Ask the student for their first name and their surname.

The student is asked to choose between:

1. maths
2. *a language* of your choice e.g. Irish or Polish or Italian or whatever – your choice

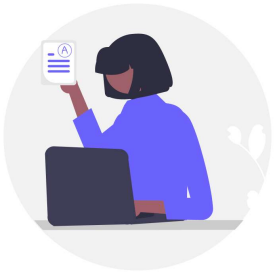
Option 1 – Maths

Ask the student for the number of questions they would like, subject to a minimum of 5 and a maximum of 25 questions.

- Your program should randomly select addition or subtraction for each question.
  - The quiz selects questions from the 1 times up to the 12 times tables
  - There are no negative or decimal numbers allowed in the quiz so for example 3 – 9 would not appear as a question because the answer is negative.
  - It is ok if the same question appears twice.
- Ask the student the maths question.

- Read their answer.
- Count the number of correct answers.
- When done, print their quiz grade as a percentage.
- Print each quiz question and if the student got the answer wrong print the correct answer
- Ask them if they would like to take another maths quiz.

Option 2 – Language



You should have 5 files that contain data of your choice for the language you have chosen. Each line in a file contains a word and its translation. Each file corresponds to a different level of difficulty.

The student is asked for their current level, which dictates which file will be opened.

- Print each word from the file for the student one at a time.
- Ask the student to translate that word.
- Read the answer.
  - Count the number of correct answers.
- When done
  - print their quiz grade as a percentage
  - print each quiz question, student's answer, tick or cross, and if the student got the answer wrong, print the correct answer

If the grade exceeds 70 % they are told what the next level they should attempt is. Once they have completed the final level (level 5) they are told they have completed all levels.

In Both Cases

When printing their quiz grade, rate the final grade using emojis or some sort of child-friendly feedback as follows (**you don't have to use these particular emojis - use your imagination**):

- 0-50 😔
- 50+ to 70 😀
- 70+ to 99 🤩
- 100 ⭐

Append to a log file for the teacher. Each time a student takes a test, print their name, the **date and time (https://cit.instructure.com/courses/108475/pages/datetime-module)** , the subject, level (if language) and their grade to the file.

When the student indicates that they are finished practising print their average score across all the tests they took in this session to the screen.

Validation

- Validate that the number of questions is in the expected range.

- Validate that the values entered for translations are non-empty, they must attempt these questions.
- When asked if they are finished practising they should enter either yes or no, if they enter any other answer they will be asked again.

Sample run 1 (view)

The recording above would lead to edits to the logs.txt file to ***add*** Luna's details as follows:

```
Luna Lovegood - Maths - November 20, 2023 13:25: 57%
Luna Lovegood - Irish1 - November 20, 2023 13:26: 86%
Luna Lovegood - Irish2 - November 20, 2023 13:26: 56%
```

Sample run 2 (read)

The following illustrates what might happen when a user runs your code. This data is used as an example only and the data should not appear in your code i.e. we should not see "Ron Weasley" anywhere within your code.

```
What is your first name? Ron
What is your last name? Weasley

Welcome, Ron.
1: Maths
2: Irish
>>> 1

Ron, how many questions? 5

1  : 9 + 9 = 1
2  : 5 + 4 = 9
3  :12 - 4 = 8
4  : 1 + 8 = 9
5  : 7 + 12 = 84

1  : 9 + 9 = 1❌ should be 18
2  : 5 + 4 = 9✔
```

```
3  :12 - 4 = 8✔
4  : 1 + 8 = 9✔
5  : 7 + 12 = 84 ✘ should be 19

Ron, you got 60% 😆

Are you finished (yes/no)? no

1: Maths
2: Irish
>>> 2

Ron, what is your current level? 1

An Luan = Monday
An Mháirt = Tuesday
An Chéadaoin = Firstly
An Déardaoin = Thursday
An Aoine = Friday
An Satharn = Saturday
An Domhnach = Sunday

An Luan = Monday✔
An Mháirt = Tuesday✔
An Chéadaoin = Firstly✘ should be Wednesday
An Déardaoin = Thursday✔
An Aoine = Friday✔
An Satharn = Saturday✔
An Domhnach = Sunday✔

Ron, you got 86% 😇

The next time you use this program you should start with level 2.

Are you finished (yes/no)? no

1: Maths
2: Irish
>>> 2

What is your current level? 2

geimhreadh = winter
cailín = girl
Is dochtúir é = She is a doctor
Go raibh maith agat = Go away
Oirthear = North
síolta = peace
foghlaim = learning
An tAontas Eorpach = Europe
eilifintí = elephant

geimhreadh = winter✔
cailín = girl✔
Is dochtúir é = She is a doctor✘ should be He is a doctor
Go raibh maith agat = Go away✘ should be thank you
Oirthear = North✘ should be East
síolta = peace✘ should be seeds
foghlaim = learning✔
An tAontas Eorpach = Europe✘ should be The European Union
eilifintí = elephant✘ should be elephants

You got 33% 😟

Are you finished (yes/no)? yes

You average score for this attempts is 60%
Your teacher can view  details in logs.txt.
```

logs.txt

```
Harry Potter - IRISH1 - November 09, 2023 13:07: 71%
Harry Potter - IRISH2 - November 09, 2023 13:07: 67%
Ron Weasley - MATHS - November 11, 2023 13:12: 60%
Ron Weasley – IRISH1 - November 11, 2023 13:13: 86%
Ron Weasley – IRISH2 - November 11, 2023 13:13: 33%
```

Guide

My colleague, Helen Fagan, has produced **this guide (https://cit.instructure.com/courses/108475/files/3229119?wrap=1)** ↓ **(https://cit.instructure.com/courses/108475/files/3229119/download?download_frd=1)** for the project which might be of use.

Checklist

- Python file and 5 language text files stored in one folder with your name and that folder is compressed into one file
- comments at the top of the file
- naming of variables
- neatness of code – using spaces correctly
- correct use of input, getting strings, int or float as appropriate from the user
- use of named constants where appropriate
- doing calculations
- correct syntax for if statements
- appropriate Boolean expressions
- showing output and formatting
  - show the correct data, labels for output fields, data calculated
  - using print and f-string for output
  - using precision specifiers or, notation