Assignment Brief 1 – AB1

Assignment Title:	Python Project				
Learner:		**Tutor(s):**	Alex Southern Daniel North	**Course:**	EAS Hybrid Course for Secondary Education
Date Set:	04/02/2025	**Deadline:**	04/03/2025 23:59	**Unit:**	Unit 2

The brief:

You have been requested by your school to produce a python-based computer application that will enable teachers to monitor the progress of learners. The application is intended to store learners' personal information and assessment data that teachers will be able to access.

Your finished application should allow teachers to:

- Log in and out
- Add and remove learners to/from the system
- Add, remove and edit assessment results for a specified learner
- View a list of all learner names and their year groups
- View the assessment results and average grade for a specified learner

Requirements for these features are expanded in the tasks below, though it has been largely left to you to consider the best methods for implementing them. As a result, there are marks to be gained beyond the pure functionality for best practise, high quality programming. As there is no written component to this assignment, good commenting is *especially* important for showcasing your understanding. You may find the marking matrix useful for further guidance.

Read through all tasks before beginning

Task 1 - Log In Screen

Implement a log in screen for users to access the system.

Users should be required to provide appropriate log in credentials before they can access the rest of the system. Users should be notified if the log in attempt was a success or failure.

NOTE: The log in screen does not have to be cryptographically secure. It is fine for credentials to be stored as plaintext.

Task 2 - Menu

Implement a menu that displays a list of system operations and allows users to select their chosen operation.

The menu should display after logging in.

You should be able to implement a log out option now. For the rest, your menu may simply print a confirmation message of the selected operation for now, with functionality integrated as you complete them.

Task 3 - Add & Remove Learner

Implement the abilities to add and remove learners.

Learner data comprises of:

- name
- date of birth
- gender
- assessment titles
- assessment scores (one score tied to each title – see Task 5)

You should consider how best to store learner data within your application and implement it.

Adding a new learner to the system should require the user to provide a name, date of birth and gender.

Removing a learner should only require the learner's name and date of birth.

Task 4 - View All Learners

Implement the ability to view learners.

This should print a list of all learner names by year group to the screen.

Task 5 - Add, Remove & Change Assessment

Implement the abilities to add, remove and change assessment results for a specified learner.

Adding an assessment requires the user to provide the name of the learner, the title of the assessment and the learner's score as a percentage. The assessment title and score should be added to the learner's data.

Removing an assessment should allow the user to specify a learner and an assessment title to be removed from the learner's data.

Changing an assessment should allow the user to specify a learner, assessment title and percentage value to update the score for that assessment.

Task 6 - View Learner Assessments

Implement the ability to view learner assessment data

This should print a list of the learner's assessments, their scores and their overall average grade represented as a letter according to the following table:

Grade	Score
A*	90.0
A	80.0
B	70.0
C	60.0
D	50.0
E	40.0
F	0.0

Task 7 - Additional Functionality

Consider how your application could be improved. Enhance your application by adding at least one brand-new feature, such as read/write operations, GUIs, new operations, expanded functions etc. This is your opportunity to showcase skills/knowledge/understanding that this assignment has not yet done so. Please clearly comment any enhancement(s) to make them obvious.

Task 8 - Code Quality

Your code should be high quality and adhere to the standards of best practise we have been learning. You should ensure that all features are correctly integrated, and that you have comprehensively tested your code to confirm it works. Make sure that your code is well commented to showcase your understanding.

Submission:

The deadline for this assignment is **04/03/25** at **23:59**.

You should submit a **single zip file** named after your first and last name, containing:

- Your python project folder
- (optional) A text file (docx/pdf/rtf/txt/md) containing remarks you would like to make about your submission such as any problems you faced, how you dealt with them, and what you disliked and/or enjoyed about this coursework. This is optional but recommended.

Please send your zip file to alex.southern@technocamps.com attached to an email. The email subject should be "**Your Name U2A1 Submission**" with 'Your Name' replaced with your own name (e.g. "Joe Bloggs U2A1 Submission").