Python Assignment: Data Structures & Control Flow

Loops* | *Lists* | *Dictionaries* | *Conditions* | *Functions

Due Date: 10-09-25
Total Questions: 20

Important Guidelines

- Please **avoid copying code from any online source**. This assignment is for your own learning and growth.
- Submit original work only. We value honesty and effort more than perfect answers.

Reward Announcement

The **first two participants** who solve the **most questions correctly without plagiarism** will get a **special opportunity** to:

Present their solution live during an upcoming session
Be appreciated by the trainer with a dedicated shoutout LinkedIn post

Get a chance to get guidance from successful people who achieve their goals

Use this chance to shine and build your confidence!

Assignment Questions:

1. Write a program to print the **sum of all elements** in a list.

2. Given a list of numbers, print only the **even numbers** using a `for` loop.

3. Create a list of your 5 favorite fruits. Use a loop to print each fruit with the message `"I love <fruit>"`.

4. Take input from the user and store 5 names in a list. Print the list in **reverse order**.

5. Write a program to check if a number entered by the user is **positive, negative, or zero**.

6. Create a function that takes a number and returns whether it is **even or odd**.

7. Write a function that takes a list and returns the **average** of its elements.

8. Given a list of integers, write a program to **count how many times each number appears** using a dictionary.

9. Create a dictionary from two lists:

```
python
CopyEdit
keys = ['name', 'age', 'gender']
values = ['Ali', 25, 'Male']
```

10. Write a function that takes a string and returns `True` if it's a **palindrome** (reads the same backward).

11. Write a program to find the **largest of three numbers** using if-else conditions.

12. From a list of strings, create a new list that contains only the strings with **length > 4**.

13. Write a calculator function that takes two numbers and an operator (`+`, `-`, `*`, `/`) and returns the result.

14. Given a dictionary of students and their marks, print:

- All student names
- Students who scored more than 80

15. Write a function that returns the top 2 most frequent elements from a list (simulate the `topKFrequent` problem).

16. Create a function that simulates a login system.
It should ask the user to enter a username and password.
Allow max 3 attempts. If the credentials match predefined values, print `"Access Granted"`, else `"Account Locked"`.

17. Create a function that takes a list of names and returns a dictionary where the **key is the first letter** and the **value is a list of names starting with that letter**.
Example: `['Ali', 'Asad', 'Bela']` → `{'A': ['Ali', 'Asad'], 'B': ['Bela']}`

18. Write a program that takes a paragraph of text and counts the **frequency of each word** (ignore case and punctuation).

19. Create a function that simulates a simplified **ATM system**.
It should allow:

- Checking balance
- Depositing money
- Withdrawing money (if sufficient balance)
  All actions should be done inside a loop until the user chooses to exit.

20. Build a mini quiz app:

- Ask 3 multiple-choice questions
- Take user input
- Keep track of score
- Show result at the end

Good Luck😊