Lab 2a: Control Structure (Selective Structure

Q1: Write a program to calculate the profit or loss in trading an item and display the result. Use the following sample input and output:

Sample Input:

Enter the selling price: 20

Enter the buying price: 19

Sample Output:

You have a profit in trading this item.

[Note: Design the solution using pseudocode before coding]

Q2: Write a program that prompts the user to enter a student's name and their marks, and then displays a message indicating whether the student has passed or failed the exam. The passing grade is 50. Use the following sample input and output:

Sample Input:

Please enter the student's name: James Payne

Please enter the student's marks: 60

Sample Output:

Congratulations James Payne, you have passed the exam!

Q3: Write a program that asks the user to enter a sentence and then checks whether it contains the word "Python". If the sentence contains the word "Python", the program should print "The sentence contains the word Python." If the sentence does not contain the word "Python", the program should print "The sentence does not contain the word Python." However, the program should be case-insensitive, meaning that it should consider "Python", "python", "PyThOn", etc. as the same word.

Tips: use “in” keyword and “.lower” to check is the word is in the sentence.

Q4 : Write a complete program to find the grade of a student based on the value of marks entered by a user using the following table:

Range of marks	Grade	Status
80 – 100	A	Pass
70 – 79	B	Pass
60 – 69	C	Pass
50 – 59	D	Pass
0 – 49	F	Fail

For marks greater than 100 and less than 0 display a message “invalid entry”

Sample input/output:

Enter your marks: 57

Your grade is: D

Enter your marks: 120

Invalid entry