Task: 6.1 Date: 10/9/25

Implement conditional, control and looping statements.

Aim:- To implement conditional, control and looping statement using python.

a) You are developing a simple grade managment system for a school. The system needs to determine the grade of a student based on their score in a test. The grading system follows these rules:

If the score is 90 or above, the grade is "A."
If the score is between 80 and 89, the grade is "B".
If the score is between 70 and 79, the grade is "C".
If the score is between 60 and 69, the grade is "D".
If the score is below 60, the grade is "F".

Algorithm

1. Start.
2. Get the input mark from the user.
3. With the use of an if-else statement do
: If the marks >=90 print grade "A".
: If the mark is between 80 and 89 print grade "B"
: If the mark is between 70 and 79 print grade "C".
: If the mark is between 60 and 69 print grade "D".
: If the mark is below 60, print: grade "F".

Output:-

Enter the score = 60

The grade :- D

4. Stop

Program

```
score = int(input("Enter the score:"))
if score >=90:
    print("The Grade is A"):
elif (score <=89 and score >=80):
    print ("the Grade is B")
elife (score <=79 and score>=70):
    print ("the Grade is C"):
elif (score <=69 and score >=60):
    print ("the Grade is D")
else:
    print ("the Grade is F")
```

output

The first 10 natural numbers are!

1
2
3
4
5
6
7
8
9
10

You are developing an educational program to help young students learn about natural numbers. One of the feature of the program is to display the first 10 natural number to the user. Write a python program that uses a for loop to print the first 10 natural numbers.

Algorithm:-

1. Start
2. Display "The first 10 natural numbers are:"
3. Use a for loop for generating the numbers
4. print the output.
5. Stop.

Program

```
# Displaying the first 10 natural numbers
print("The first 10 natural numbers are")
for i in range(1,11): # loop from 1 to 10
    print(i).
```

Output:-

Enter the number :5

The number of digits in it is :1

Enter the number :55

The number of digits in it is :2

c. You are working on a feature for a financial application that involves validating user input. One of the requirements is to count the total number of digits in a given number.

Algorithm

1- Start.
2. get the input from the user
3. Convert the integer to string using str()
4. Use len function to find number of digits
5. print the output.

Program:-

```
digit = int(input("Enter the Number:"))
String = str(digit) # since integer doesn't
                      have len()
Count = len(String)
print("The number of digits in", digit, "is
                                  Count)
```

d) Develop a simple program for the Air force to label an aircraft as military or civilian. The program is to be given the plane's observed speed in both Kilometer per hour. The speed will be as its input for planes traveling in excess of 1100 km/h you should display them as "It's a civilian aircraft", between 500 km/h & 1100 km/h, display them as "It's a military aircraft" and for plane traveling at more slower speed - less than 500 km/h you should display them as an "It" BIRD".

Input & ouput.

2
1100.
It's civilian aircraft.
200
It's a BIRD!

2.2) The National Earthquake information Centre has the following criteria to determine the earthquake's damage. Use the given richter scale criteria and their corresponding characterization. The richter scale serves as the input data and the characterization as output information. use the double if else if else conditional statement

Richter number (n) characterization

n<5.0 little or no damage

5.0 >= n < 5.5 some damage

5.5 >= n < 6.5 serious damage

6.5 >= n < 7.5 disaster

higher catastrophe

Input & output

2

6

Serious damage

2

little or no damage

VEL TECH - CSE	
EX NO.	6
PERFORMANCE (5)	5
RESULT AND ANALYSIS (3)	3
VIVA VOCE (3)	3
RECORD (4)	4
TAL (15)	15
...TH DATE	

Result: Thus the python program to implement conditional control and looping statements was done successfully.