

Task 2: Implement Conditional, Control, and looping Statement

Aim: To implement Conditional, Control and looping Statement using Python.

A. You are developing a simple grade management 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 b/w 80 & 89, the grade is "B"

If the score is b/w 70 & 79, the grade is "C"

If the scores b/w 60 & 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 - elif - else statement do
 - * If the marks ≥ 90 print grade "A"
 - * If the marks is b/w 80 & 89 print grade "B"
 - * If the marks is b/w 70 & 79 print grade "C"
 - * If the marks is b/w 60 & 69 print grade "D"
 - * If the marks is below 60, print grade "F".
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")

elif(score <= 79 & 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:

==== Restart: C:\use

Enter the score: 60

The grade is D.

B. You are developing an educational program to help young students learn about natural numbers. One of the features of the program is to display the first 10 natural number to the user. Write a Python program that uses 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:

===== RESTART: C:\Users\919\OneDrive\桌面

The first 10 natural numbers are:

1 ("1 is shown 1") hung
2 ("2 is shown 2") hung
3 ("3 is shown 3") hung
4 ("4 is shown 4") hung
5 ("5 is shown 5") hung
6 ("6 is shown 6") hung
7 ("7 is shown 7") hung
8 ("8 is shown 8") hung
9 ("9 is shown 9") hung
10 ("10 is shown 10") hung



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 ", digit, "is:", count)
```

EE: TECH	
EXAM	2
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	5
TOTAL (9)	20
SIGN WITH DATE	20/2
	30/2

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

Output:

===== RESTART: C:\users\91979

Enter the num=5

The num of digit in 5 is: 1

===== RESTART: C:\users\91979

Enter the number: 55

The num of digits in 55 is: 2

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