

IMPLEMENT CONDITIONAL, CONTROL AND LOOPING

STATEMENTS:

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

Q: You are developing a simple grade management system for school. The system needs to determine the grade of the student based on their score in the test. The grading system will follow these rules:

- if the score is 90 or above, the grade is "A"
- if the score is 80 and 89, the grade is "B"
- if the score is 70 and 79, the grade is "C"
- if the score is 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 if-else statement do.
 - if the marks ≥ 90 . The grade is "A".
 - if the marks is 80 and 89 print grade is "B"
 - if the marks is 70 and 79 print grade is "C"
 - if the marks is 60 and 69 print grade is "D".
 - if the marks is below 60 print grade is "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 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:

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 numbers 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 generalising 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:

The first 10 natural numbers are:

1 2 3 4 5 6 7 8 9 10

Enter (1)

for 2 in range (1,12): # push from 1 to

print ("the first 10 natural numbers are:-")

Displaying the first 10 natural numbers:-

python :-

2- job

4- first the output

2- Output :- The number of digits in 55 is 2

3- Display :- The first 10 natural numbers are:-

1- class

Algorithm :-
Enter the number : 55
The number of digits in 55 is 2

Output :-
Enter the number : 5
The number of digits in 5 is 1

Code :-
The first 10 natural numbers are:-

python :-
The first 10 natural numbers are:-

python :-
The first 10 natural numbers are:-

c. You are working on a feature of 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. Use len function to find numbers of digits.
4. Convert the integer to string using str()
5. Print the output.

Program:

```
digit = int(input("Enter the number: "))  
string = str(digit) # since the integer doesn't have len()  
count = len(string)  
print("The number of digits in" is count).
```

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