8/8/25

Task 2: Implement conditional, control and looping statements

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

2.1 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 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-elif-else statement do
   * If the marks >=90 print grade "A"
   * If the marks is between 80 and 89 print grade "B".
   * If the marks is between 70 and 79 print grade "C".
   * If the marks is between 60 and 69 print grade "D".
   * If the mark is below 60, print grade "F".
4) Stop

Program

```
Score = int(input("Enter the source:"))
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")
```

Result: Thus implement conditional control and looping statement using python

Output:

Enter the score:60

The Grade is D

2.2 The electronics maintenance team at a data center needs a tool to assess the health status of UPS backup batteries based on their current charge percentage as input and categorizes the battery health using the following conditions:

* If the percentage is greater than (or) equal to 90, display:
  ⇒ "Excellent Battery Health"
* If the percentage is between 70 and 89, display:
  ⇒ "Good Battery Health"
* If the percentage is between 40 and 69, display:
  ⇒ "Average Battery Health"
* If the percentage is below 40, display
  ⇒ "Poor Battery Health"

Task: Write a Python program that uses Laddelerized if-elif-else statements

Algorithm:

1) Accept battery percentage from the user.
2) Use Laddderized if-elif-else to determine the health category:
   * If percentage ≥ 90 → "Excellent Battery Health".
   * If 70 ≤ percentage < 90 → "Good Battery Health".
   * If 40 ≤ percentage < 70 → "Average Battery Health".
   * If percentage < 40 → "Poor Battery Health".

Program:

```
# Battery Health Checker
percentage = int(input("Enter battery percentage"))
if percentage >= 90:
    print("Excellent Battery Health")
elif percentage >= 70:
    print("Good Battery Health")
elif percentage >= 40:
    print("Average Battery Health")
else:
    print("Poor Battery Health")
```

Result: Thus the electronics maintenance team at a data Center needs a tool to assess the health status of UPS backup batteries based on their current

Enter battery percentage : 85

Good Battery Health

Samepte Input:

Enter height of visitor 1 in cm: 150
Enter height of visitor 2 in cm: 110
Enter height of visitor 3 in cm: 150
Enter height of visitor 4 in cm: 90
Enter height of visitor 5 in cm: 125

same output:

Allowed
Not Allowed
Allowed
Not Allowed
Allowed

2.3 You're coding a system at an amusement park that checks the height of each visitor.

* If the heigh is 120cm or more, print "Allowed".
* Otherwise, print "Not allowed".

Repeat this for 5 visitors.

Algorithm:

1) Start the program
2) Set the total number of visitors to 5
3) Loop from visitor 1 to visitor 5:
   * Accept the height of the visitor as input (in cm)
   * If height is greather than or equal to 120, print "Allowed".
   * else, print "Not allowed"
4) End the loop after 5 visitors have been checked
5) Stop the program

Program

```
for i in range(1,6):
    height = int(input(f"Enter height of visitor {i} in cm:"))
    if height >= 120:
        print("Allowed to ride")
    else
        print("Not allowed to ride")
```

VEL TECH	
EX NO.	2
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	5
TOTAL (20)	20
SIGN WITH DATE	

Result:

Thus, python program was successfully implemented using conditional Statements (if_else) control flow and looping statements.