Task2: Implement conditional, control and looping statements

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

2.1: You are developing a simple grade a management system for a school. The system need 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 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".

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):
```
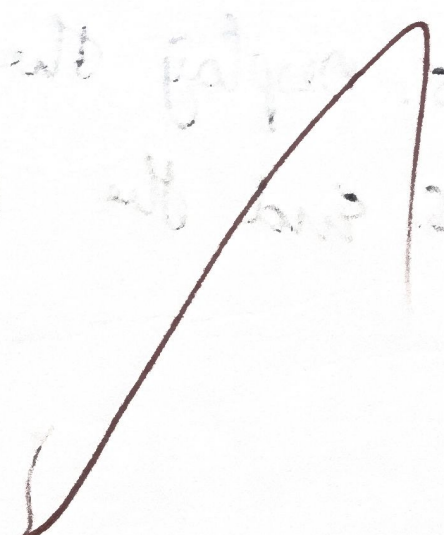
PROGRAM:

score
output:

restart : c : \use

 Enter the score :60
 The grade is D

2.2 The electronics team at a data center needs a tool to assess the health status of UPS backup batteries based on their current charger percentage. You are asked to develop a python program that accepts the battery 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 & 89, display:

→ " Good Battery health "

• If the percentage is below 40, display:

→ " poor Battery health "

Task:

write a python program that: Uses ladderized if-Elif-else statements

Algorithm:

1. Accept battery percentage from user.

2. use ladderzied if-else to determine the health category:

• If percentage $\geq$ 90 → " Excellent Battery health "
• If $70 \leq$ percentage < 90 → " Good Battery health ".
• If $40 \leq$ percentage < 70 → " Averge Battery health "

Python 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:
```

output:
Enter battery percentage : 85
Good Battery health

Q.3. You are working as a system at an amusement park that checks the height of each visitor.
* If the height is 120 cm or more, print "Allowed".
* otherwise, print "not allowed".

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
4. End the loop after 5 visitors
5. stop.

Program :

```python
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:")
```

Result : Thus, the python program was successfully implemented using conditional statements (if - else), control flow, and looping statements.