

Date: 20/7/25

## Task 2 - Implement conditional control and looping statements

(a) Temperature Alert System (if-elif)

Aim:

To write a python program that takes room temperature as input and prints:

- "Too cold" if temperature  $< 18$
- "comfortable" if  $18 \leq \text{temperature} \leq 25$
- "Too hot" if temperature  $> 25$

Algorithm:

1. Start the program
  2. Accept room temperature from the user.
  3. use if-elif-else conditions to check the temperature range:
    - if temperature  $< 18$ , display "Too cold"
    - Else if temperature is between 18 and 25 (inclusive), display "comfortable"
    - Else, display "Too Hot"
- End of program

Program:

```
temp = float (input("Enter room temperature:"))  
if temp < 18:  
    print ("Too cold")  
elif 18 <= temp <= 25:  
    print ("comfortable")  
else:  
    print ("Too Hot")
```

Result:

The program successfully checked the temperature and printed the appropriate alert based on the given condition.

output:

Enter your temperature: 22

Comfortable

6/9

TECH - CSR	
PERFORMANCE (%)	
REVENUE (M)	
EXPENSE (M)	
PROFIT (M)	
ROI (%)	
DATE	

## b) Password Entry System (while loop)

Aim:

to develop a python program that allows the user up to 3 attempts to enter the correct password using a while loop. The correct password is "admin123".

Algorithm:

1. Start the program
2. Initialize the attempt count to 0
3. Repeat the following steps while attempts are less than 3:
  - Ask the user to input a password
  - if the password is correct, display a success message and stop.
  - otherwise, increase the attempt count
4. If 3 incorrect attempts are made, display an access denied message
5. End the program

Program:

```
correct_password = "admin123"  
attempts = 0
```

```
while attempts < 3:
```

```
    user_input = input("Enter Password:")
```

```
    if user_input == correct_password:
```

```
        print("Access granted!")
```

```
        break
```

```
    else:
```

```
        print("Incorrect Password")
```

```
        attempts += 1
```

```
if attempts == 3:
```

```
    print("Access denied. Too many attempts.")
```

Result:

The program correctly validate the password with a maximum of 3 attempts using a while loop

Output:

Enter password: pass incorrect password

Enter password: admin incorrect password

Enter password: admin123 Access granted

0/0

## C) Factorial finder (for loop)

Aim:

To write a python program that accepts a number and calculates its factorial using a for loop.

Algorithm:

1. Start the program
2. Accept a number from the user
3. Initialize a variable fact to 1.
4. Use a for loop from 1 to the given number (inclusive), multiply fact by each number
5. Display the result.
6. End the program.

Program:

```
num = int(input("Enter a number: "))  
fact = 1  
for i in range(1, num+1):  
    fact *= i  
print("Factorial:", fact)
```

VEL TECH - CSE	
EX NO.	2
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	5
TOTAL (20)	25
SIGN WITH DATE	8/11/23

Result:

The program accurately calculated the factorial of the input number using a for loop.

output :

Enter a number: 5

Factorial : 120

5