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Task 2:- Implement conditional, control and looping statements

(a) Temperature Alert system (if-elif)

Aim:-

To write a python program that classifies Temperature as "Too cold", "Comfortable", or "Too Hot" using conditional (if-elif-else) statements.

Algorithm:-

1. Start
2. Accept temperature input from the user
3. If temperature  $< 18$ , Print "Too cold"
4. Else if temperature is between 18 and 25 (inclusive), Print "Comfortable"
5. Else, Print "Too Hot"
6. End.

Program:-

```
# Temperature Alert system
```

```
temperature = float(input("Enter the room temperature:"))
```

```
if temperature < 18:
```

```
    print("Too cold")
```

```
elif 18 <= temperature <= 25:
```

```
    print("Comfortable")
```

```
else:
```

```
    print("Too Hot")
```

Result:-

The Program correctly identifies the room temperature Range and Prints an appropriate alert.

Output:-

Enter the room Temperature: 20

1	70 AL (20)
2	RECORD (2)
3	VIVA VOCE (5)
4	RESULT AND ANALYSIS (2)
5	PERFORMANCE (2)
6	X NO.

OUTPUT :-

Enter Password: test

Incorrect Password. TRY Again.

Enter Password: admin

Incorrect Password: Try Again.

Enter Password: admin123

Access Granted

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## (6) Password Retry System (while loop)

Aim:-

To implement a password retry system using a while loop that allows a maximum of 3 attempts.

Algorithm:-

1. Start
2. Set correct Password as "admin123"
3. Set attempt counter to 0
4. While attempts < 3:
  - Ask the user for Password input
  - If correct, Print "Access Granted" and Exit loop.
  - Else, increment attempts and print "Try Again"
5. If attempts == 3, print "Access Denied"
6. End

Program:-

```
# Password Retry System
correct_password = "admin123"
attempts = 0
while attempts < 3:
    entered_password = input("Enter Password: ")
    if entered_password == correct_password:
        print("Access Granted")
        break
    else:
        print("Incorrect Password. Try Again.")
        attempts += 1
if attempts == 3:
    print("Access Denied")
```

Result:-

The program allows up to 3 attempts and grants or Denies access correctly.

## Output:-

Enter a number: 5

Factorial of 5 is 120

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## (C) Factorial Finder (for loop)

Aim:-

To write a python program that calculates the Factorial of a number using a for loop.

Algorithm:-

1. Start
2. Input a number from the user
3. Initialize result as 1
4. Loop from 1 to number (inclusive), multiply result by each value
5. Print the result.
6. End.

Program:-

# Factorial Finder

Number = int(input("Enter a number: "))

factorial = 1  
for i in range(1, number + 1):

factorial \* = i

Print("Factorial of ", number, "is", factorial)

VEL TECH - CSE.	
X NO.	2
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	1
TOTAL (20)	15
SIGN WITH DATE	

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Result:-

The program correctly calculates the factorial of the entered number using a for loop.