Conditional Structures

In [22]:

```python
number = int(input("Enter a number: "))
if number % 2 == 0:
    print("The number in even.")
else:
    print("The number is odd.")
```

The number is odd.

In [24]:

```python
age = int(input("Enter your age: "))
if age >= 20:
    print("You are eligible to vote.")
else:
    print("You are not eligible to vote yet.")
```

You are eligible to vote.

In [32]:

```python
num1 = int(input("Enter first integer: "))
num2 = int(input("Enter second integer: "))
if num1 > num2:
    print(f"The largest number is {num1}")
else:
    print(f"The largest number is {num2}")
```

The largest number is 45

In [37]:

```python
number = float(input("Enter a number: "))
if number > 0:
    print("Positive")
elif number < 0:
    print("Negative")
else:
    print("Zero")
```

Positive

In [40]:

```python
age=int(input("Enter your age: "))
if age<=12:
    print("Child")
```

```python
elif 13<= age <= 19:
    print("Teenager")
elif 20<= age <= 50:
    print("Adult")
else:
    print("Senior Citizen")
```

Adult

In [47]:

```python
day_number=int(input("Enter a number between 1 and 7: "))
if day_number == 1:
    print("Sunday")
elif day_number == 2:
    print("Monday")
elif day_number == 3:
    print("Tuesday")
elif day_number == 4:
    print("Wednesday")
elif day_number == 5:
    print("Thursday")
elif day_number == 6:
    print("Friday")
elif day_number == 7:
    print("Saturday")
else:
    print("Error! Please enter a number between 1 and 7. ")
```

Error! Please enter a number between 1 and 7.

In [54]:

```python
weight = float(input("Enter your weight in kg: "))
height = float(input("Enter your height in meters: "))
bmi = weight / (height*height)
if bmi < 18.5:
    print("Underweight")
elif 18.5 <= bmi <= 25.0:
    print("Normal weight")
elif 26 <= bmi <= 25.0:
    print("Overweight")
else:
    print("Obesity")
```

Underweight

In [63]:

```python
subject1 = float(input("Enter marks for subject 1: "))
subject2 = float(input("Enter marks for subject 2: "))
subject3 = float(input("Enter marks for subject 3: "))
```

```python
average = (subject1 + subject2 + subject3) / 3

if 90 <= average <= 100:
    print("Grade A")
elif 80 <= average <= 89:
    print("Grade B")
elif 70 <= average <= 79:
    print("Grade C")
elif 60 <= average <= 69:
    print("Grade D")
else:
    print("Grade F")
```

Grade A

In [82]:

```python
import cmath

A = float(input("Enter coefficient a: "))
B = float(input("Enter coefficient b: "))
C = float(input("Enter coefficient c: "))


discriminant = B**2 - 4*A*C


if discriminant > 0:
    root1 = (-B + cmath.sqrt(discriminant)) / (2 * A)
    root2 = (-B - cmath.sqrt(discriminant)) / (2 * A)
    print(f"The roots are real and different: {root1} and {root2}")
elif discriminant == 0:
    root = -B / (2 * A)
    print(f"The roots are real and equal: {root}")
else:
    root1 = (-B + cmath.sqrt(discriminant)) / (2 * A)
    root2 = (-B - cmath.sqrt(discriminant)) / (2 * A)
    print(f"The roots are complex: {root1} and {root2}")
```

The roots are complex: (-0.5555555555555556+0.955813918560292j) and (-0.5555555555555556-0.955813918560292j)

In [85]:

```python
num1 = float(input("Enter first number: "))
num2 = float(input("Enter second number: "))
num3 = float(input("Enter third number: "))

numbers = [num1, num2, num3]
numbers.sort()
print("Sorted numbers:", numbers)
```

```
Sorted numbers: [43.0, 45.0, 45.0]
```

In [90]:

```python
char = input("Enter a character: ").lower()
if char in 'aeiou':
    print("Vowel")
else:
    print("Consonant")
```

```
Consonant
```

In [93]:

```python
year = int(input("Enter a year: "))
if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):
    print("Leap Year")
else:
    print("Not a Leap Year")
```

```
Not a Leap Year
```

In [126]:

```python
call = int(input("Enter number of calls: "))
bill = 300

if call > 150:
    bill += min(calls - 150, 50) * 0.70
if call > 200:
    bill += min(calls - 200, 50) * 0.60
if call > 130:
    bill += (calls - 130) * 0.50

print(f"Your monthly telephone bill is Rs. {bill}")
```

```
Your monthly telephone bill is Rs. 300
```