

Decision Control Statements: If, Elif, Else

Syntax:

```
if condition:
    # code
elif condition 2:
    # code
elif condition 3:
    # code
else:
    # code
```

If

If the condition is true, then the code inside the if block will be executed.

Elif

If the above condition is false and current condition is true, then the code inside the elif block will be executed.

Else

If all the above conditions are false, then the code inside the else block will be executed.

1. Write a program to find out if a person is eligible to vote or not. If he is not eligible, then print the number of years left to be eligible.

```
Age = int(input("Enter your age: "))
if Age >= 18:
    print(f"Your age is {Age}. You are eligible to vote")
else:
    print(f"Your age is {Age}. You are not eligible to vote. The number of years you must wait is {18-Age} Years.")
```

Your age is 15. You are not eligible to vote. The number of years you must wait is 3 Years.

2. Write a program to find whether the number is even or odd.

```
num = int(input("Enter a number: "))
if num % 2 == 0:
    print(f"The number {num} is even")
else:
    print(f"The number {num} is odd")
```

The number 40 is even

3. Write a program to find whether the given number is prime or not.

```
from math import sqrt

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

if pr > 1:
    for i in range(2, int(sqrt(pr) + 1)):
        if pr % i == 0:
            print(f"The number {pr} is not a prime number")
            break
    else:
        print(f"The number {pr} is a prime number")
```

The number 1278367 is not a prime number

4. Write a program to enter any character. If the character is lowercase, convert it to uppercase. If the character is uppercase, convert it to lowercase.

```
ch = input("Enter any character: ")

if ch.islower():
    print(f"The character {ch} is in lower case. Its upper case is {ch.upper()}")
elif ch.isupper():
    print(f"The character {ch} is in upper case. Its lower case is {ch.lower()}")
else:
    print("Invalid character")
```

The character D is in upper case. Its lower case is d

5. Write a program to find if the given year is leap year or not.

```
year = int(input("Enter a year: "))

if year % 4 == 0:
    if year % 100 == 0:
        if year % 400 == 0:
            print(f"The year {year} is a leap year")
        else:
            print(f"The year {year} is not a leap year")
    else:
        print(f"The year {year} is a leap year")
else:
    print(f"The year {year} is not a leap year")
```

The year 1900 is not a leap year

6. Write a program to test whether the number entered is negative, positive or equal to zero.

```
inp = int(input("Enter a number: "))

if inp > 0:
    print(f"The number {inp} is positive")
elif inp < 0:
    print(f"The number {inp} is negative")
else:
    print(f"The number {inp} is zero")
```

The number 0 is zero

7. Write a program to find the greatest number out of three numbers.

```
a, b, c = map(int, input("Enter three numbers: ").split())
print(f"The numbers are {a}, {b} and {c}")
if a > b:
    if a > c:
        print(f"The number {a} is the largest")
    else:
        print(f"The number {c} is the largest")
else:
    if b > c:
        print(f"The number {b} is the largest")
    else:
        print(f"The number {c} is the largest")
```

The numbers are 349, -12399 and 12
The number 349 is the largest

8. Write a program to determine if the character entered is vowel or not.

```
ch = input("Enter any character: ")
ch1 = ch.lower()
if ch1 == 'a' or ch1 == 'e' or ch1 == 'i' or ch1 == 'o' or ch1 == 'u':
    print(f"The character {ch} is a vowel")
else:
    print(f"The character {ch} is a consonant")
```

The character d is a consonant

9. Write a program to calculate electricity bill.

Table:

Units	Rate/Unit	Extra
0-150	3/-	0/-
151-300	3.75/-	100/- above 150
301-450	4/-	250/- above 300

Units	Rate/Unit	Extra
451-600	4.25/-	300/- above 450
600+	5/-	400/- above 600

```

unit = int(input("Enter the units: "))
unit150 = unit * 3
unit300 = 150 * 3 + (unit-150) * 3.75 + 100
unit450 = 150 * 3 + 150 * 3.75 + (unit-300) * 4 + 250
unit600 = 150 * 3 + 150 * 3.75 + 150 * 4 + (unit-450) * 4.25 + 300
unit600plus = 150 * 3 + 150 * 3.75 + 150 * 4 + 150 * 4.25 + (unit-600)
* 5 + 400
if isinstance(unit, int):
    if unit > 0:
        if unit <= 150:
            print(f"The units is {unit}. No extra charge is
applicable")
            print(f"The total bill for {unit} units is {unit150}/-")
        elif unit <= 300:
            print(f"The units is {unit}. Extra charge of 100/- is
applicable")
            print(f"The total bill for {unit} units is {unit300}/-")
        elif unit <= 450:
            print(f"The units is {unit}. Extra charge of 250/- is
applicable")
            print(f"The total bill for {unit} units is {unit450}/-")
        elif unit <= 600:
            print(f"The units is {unit}. Extra charge of 300/- is
applicable")
            print(f"The total bill for {unit} units is {unit600}/-")
        else:
            print(f"The units is {unit}. Extra charge of 400/- is
applicable")
            print(f"The total bill for {unit} units is
{unit600plus}/-")
    else:
        print("Negative input")
else:
    print("Invalid input")

```

The units is 601. Extra charge of 400/- is applicable
The total bill for 601 units is 2655.0/-