Decision making Statements / Conditional Statements

- Also called as conditional statement or control flow statment
  - If
  - if-else
  - if-elif

In [1]:
```
if 5 == 5:
    print ("RSR")
```

```
RSR
```

In [2]:
```
if 1 <2:
    print("DA by RSR")
```

```
DA by RSR
```

In [3]:
```
if 1>2:
    print('OK')
```

In [4]:
```
name = input ("enter name: ")
if name == "RSR":
    print(name , "HI")
```

```
enter name: jnoi
```

if -else

else if above condition failed ,execute autometicaly

In [5]:
```
a , b = 10 , 5
if (a==b and b!=a):
    print("RSR")
else:
    print("NO")
print("OK")
```

```
NO
OK
```

In [6]:
```
a , b = 10 , 5
if (a==b or b!=a):
    print("RSR")
else:
    print("NO")
print("OK")
```

```
RSR
OK
```

In [8]:
```
marks = eval(input("Enter marks: "))
if marks > 70:
    print("pass")
else:
    print("fail")
```

```
Enter marks: 90
pass
```

In [9]:
```
marks = eval(input("Enter marks: "))
if marks > 70:
    print("pass")
else:
    print("fail")
```

```
Enter marks: 43
fail
```

If - elif

- if above cond false , thex new condition
- **if** if condition is true , ecexute block of code
- **else** if condition if false , execute automaticaly
- **elif** above condition fail check new condition

Practice example

- Exercise: Write a program that will ask the user for their height in centimeters. Use the input() built-in function to do this. If the height is more than 185 centimeters, print the following line of code:

In [10]:
```
Height = eval(input('Enter height in cm: '))
if Height > 185 :
    print("You are tall")
```

```
Enter height in cm: 778
You are tall
```

- Exercise: Write a program that will ask the user the following question:
  - Is Sydney the capital of Australia?
  - If the user answers y, print: Wrong! Canberra is the capital!
  - If the user answers n, print: Correct!
  - If the user answers anything else, print: I do not understand your answer!

In [11]:
```
ans = input("IS Sydney the capital of Australia? ")
if ans == "yes" :
    print("Wrong! Canberra is the capital!")
```

```
elif ans == "no" :
    print("Correct !")
else:
    print('I do not understand your answer!')
```

```
IS Sydney the capital of Australia? yes
Wrong! Canberra is the capital!
```

Exercise: Write a program to ask the user to do the following:

- Provide the name of a country that does not contain any lowercase a or e letters. (Use the prompt: The country is:)
- If the user provides a correct string (i.e. one with no a or e inside it), print: You won... unless you made this name up!
- Otherwise, print: You lost!

In [12]:
```
country = input("The country is : ")
if "a" in country or "e" in country :
    print ("You lost !")
else :
    print("You won... unless you made this name up! ")
```

```
The country is : yes
You lost !
```

-Exercise: The letter e is said to be the most frequent letter in the English language. Count and print how many times this letter appears in the poem below:

In [13]:
```
poem = """John Knox was a man of wondrous might,
And his words ran high and shrill,
For bold and stout was his spirit bright,
And strong was his stalwart will.

Kings sought in vain his mind to chain,
And that giant brain to control,
But naught on plain or stormy main
Could daunt that mighty soul.

John would sit and sigh till morning cold
Its shining lamps put out,
For thoughts untold on his mind lay hold,
And brought but pain and doubt.

But light at last on his soul was cast,
Away sank pain and sorrow,
His soul is gay, in a fair to-day,
And looks for a bright to-morrow."""

char = 0
for letter in poem:
    if  letter == "e":
        char = char +1
print(char)
```

```
0
```

- Write a program to check wjether a person os eligible for voting or not

In [14]:
```
age_of_person = int(input("Age of person: "))
if age_of_person >= 18 :
    print("Congrats! You are eligible for voitng")
else:
    print("You cna vote after 18 yr completed")
```

```
Age of person: 98
Congrats! You are eligible for voitng
```

- write a program to check whether a number entered by user is even or odd

In [15]:
```
num = int(input('Enter number:'))
if num%2==0:
    print ("num is even")
else:
    print("num is odd")
```

```
Enter number:65
num is odd
```

- write the program to check whether the no is divisible by 7 or not

In [16]:
```
num = int(input('Enter number:'))
if num % 7 ==0:
    print ("num is divisible by 7")
else:
    print("sorry , you have given wrong number")
```

```
Enter number:7
num is divisible by 7
```

In [17]:
```
num = int(input( "Enter number: "))
if num % 5== 0:
    print("Hello")
else:
    print("Bye")
```

```
Enter number: 8
Bye
```

In [18]:
```
Enter_unit = eval(input("Enter bill unit: "))
if Enter_unit <= 100:
    print("No charge")
elif Enter_unit > 100 and Enter_unit <= 200:
    print("unit is greater than 100 , so your bill is =", Enter_unit*5)
elif Enter_unit > 200:
    print("unit is greater than 200 , so your bill is =", Enter_unit*10)
```

```
Enter bill unit: 65
No charge
```

In [19]:
```
marks = eval(input("Enter marks: "))
if marks > 90:
    print("Grade A")
elif marks > 80 and marks <= 90:
```

```
    print("Grade B")
elif marks >= 60 and marks <= 80:
    print("Grade C")
elif marks <= 60 and marks >= 35:
    print("Grade D")
else:
    print("fail")
```

```
Enter marks: 66
Grade C
```

In [20]:
```
tax = 0
price = eval(input("Enter number: "))
if price > 100000:
    tax = 15/100 * price
    print("Tax1",tax)
elif price > 50000 and price <= 100000:
    tax = 10/100* price
    print("Tax2",tax)
elif price <= 50000:
    tax = 5/100 * price
    print("Tax3",tax)
else:
    print("No tax")
```

```
Enter number: 899990
Tax1 134998.5
```

In [21]:
```
num = int(input("Enter num form 1 to 7 only: "))
if num ==1:
    print("Monday")
elif num == 2:
    print("Tuesday")
elif num == 3:
    print("Wednesday")
elif num == 4:
    print("Thursday")
elif num == 5:
    print("Friday")
elif num == 6:
    print("Saturday")
elif num == 7:
    print("Sunday")
else:
    print("Invalid number")
```

```
Enter num form 1 to 7 only: 5
Friday
```

In [22]:
```
num = int(input("Enter num form 1 to 12 only: "))
if num ==1:
    print("jan")
elif num == 2:
    print("Feb")
elif num == 3:
    print("Mar")
elif num == 4:
    print("Apr")
elif num == 5:
    print("May")
```

```
elif num == 6:
    print("Jun")
elif num == 7:
    print("Jul")
elif num == 8:
    print("Aug")
elif num == 9:
    print("Sep")
elif num == 10:
    print("Oct")
elif num == 11:
    print("Nov")
elif num == 12:
    print("Dec")
else:
    print("Invalid number")
```

```
Enter num form 1 to 12 only: 7
Jul
```

In [23]:
```
if True:
    print("101")
else:
    print("202")
```

```
101
```

In [24]:
```
City = input("Enter city name: ")
if City == 'Delhi':
    print("Red Fort")
elif City == 'Agra':
    print("Taj Mahal")

elif City == 'Hydrabad':
    print("Charminar")
elif City == 'Jaipur':
    print('Jal Mahal')
elif city == 'Pohradevi':
    print('Nangara Bhavan')
else:
    print('Enter valid city name')
```

```
Enter city name: Delhi
Red Fort
```

In [25]:
```
if (a>5 and a<= 10):
    print("Hello")
else:
    print("Bye")
```

```
Hello
```

In [28]:
```
age = int(input("Enter age: "))
if age <= 20:
    print("Person is teenager")
elif age > 20 and age < 55:
    print("Person is adult")
else :
    print("Person is Senior Citizen")
```

```
Enter age: 12
Person is teenager
```

In [34]:
```
n1 = int(input("enter no. :"))
n2 = int(input("enter no: "))
if n1 > n2:
    print("smaller no is" , n2)
else:
    print("smaller no is", n1)
```

```
enter no. :3
enter no: 9
smaller no is 3
```

In [36]:
```
num = eval(input("Enter no : "))
if num > 0:
    print("Positive")
else:
    print("Negative")
```

```
Enter no : -12
Negative
```

In [39]:
```
temp = eval(input("Enter temperature: "))
if temp == 100:
    print("Water is bolling ")
elif temp < 100:
    print("no")
```

```
Enter temperature: 78
no
```

In [42]:
```
p1 =  int(input("enter no 1: "))
p2 = int(input("enter no 2: "))
p3 = int(input("enter no 3: "))
p4 = int(input("enter no 4: "))
if p1 < p2 & p1 < p3 & p1 <p4:
    print ("young", p1)
elif p2 < p1 & p2 < p3 & p2 < p4:
    print("old")
elif p3 < p2 & p3 < p1 & p3 <p4:
    print ("adult")
elif p4 < p2 & p4 < p1 & p4 <p3:
    print("OLD")
```

```
enter no 1: 34
enter no 2: 12
enter no 3: 45
enter no 4: 87
```