Decision Making statements

- These are also called as Conditional statements or Control flow statements in python
  - if
  - if-else
  - if-elif
  - if-elif-else
  - nested if

Block Structure

- The code that is executed when a specific condition is met is defined in a "block."
- Statements preceding blocks generally end with a colon (:)
- In Python, the block structure is signalled by changes in indentation.
- Each line of code in a certain block level must be indented equally and indented more than the surrounding scope.
- The standard is to use 4 spaces for each level of block indentation.

if:

- An if statement consists of a Boolean expression followed by one or more statements
- only when condition is True, the **if block** will execute
- If the conditionis False, the **if block** is not executed

In [1]:

```
x=10

if x > 0:
    print('data science')
    print('python')

print("SRK")
```

```
data science
python
SRK
```

In [2]:

```
x=10

if x < 0:
    print('data science')
    print('python')

print("SRK")
```

```
SRK
```

if-else

In [3]:

```
a,b,c,d=2,2,3,4

if (a==b and c==d):
    print("abc")

else:
    print("def")

print("SRK")
```

```
def
SRK
```

In [4]:

```
a,b,c,d=2,2,3,4

if (a==b or c==d):
    print("abc")

else:
    print("def")

print("SRK")
```

```
abc
SRK
```

if -elif-else

In [5]:

```
x=10

if x < 0:
    print('positive')
elif x == 0:
    print('zero')
else:
    print('negative')
```

```
negative
```

Take a variable y and print "Grade A" if y is greater than 90, "Grade B" if y is greater than 70 but less than or equal to 70 "Grade F".

In [6]:

```
y=int(input("enter the marks: "))

if y>90:
    print("Grade A")
elif y>70:
    print("grade B")
else:
    print("Grade F")
```

```
enter the marks: 99
Grade A
```

write a program, to print the largest number out of 2...Ask the user to enter 2 values

In [7]:

```
v1= int(input("enter the first number:"))
v2= int(input("enter the second number:"))

if v1>v2:
    print(v1,"is largest number")
elif v1==v2:
    print("both are equal")
else:
    print(v2,"is largest number")
```

```
enter the first number:12
enter the second number:3
12 is largest number
```

Nested if Statements

We can have a if...elif...else statement inside another if...elif...else statement. This is called nesting in computer programming.

In [8]:

```
num = 10

if num > 0:
    if num == 0:
        print("zero")
    else:
        print("Positive Number")
else:
    print("Negative number")
```

```
Positive Number
```

In [9]:

```
pin = int(input("enter the atm pin number:"))
balance = 10000

if pin==1234:
    print("enter 1 for withdrawl")
    print("enter 2 for balance check")
    a=int(input("please enter either 1 or 2:"))
    if a==1:
        withdrawl = int(input("enter the amount to withdraw"))
        if withdrawl<balance:
            print("transaction sucessful")
        else:
            print("insufficient balance")
    elif a==2:
        print("your present balance is:",balance)
    else:
        print("invalid entry")
else:
    print("invalid pin")
```

```
enter the atm pin number:1234
enter 1 for withdrawl
enter 2 for balance check
please enter either 1 or 2:1
enter the amount to withdraw5000
transaction sucessful
```