```
In [ ]:   #Date 11/12/2025


                         #Python for ML
          '''Data is of String / character data type is same as str
          Python treats all the data type as the class


          Learn : list . tuple , dictionary and set.




          '''
```

```
In [26]:  #python treated this in triple quotes as a string
          p='''Hello'''
          print(p)
          type(p)
```

          Hello

Out[26]: str

```
In [ ]:   # print() is a function that prints a message or and a value of
          variables.
          #How :

          '''
          print('message',variable,variable,'message')

          eg/ print('Number = ') gives you output : Number =


          '''
```

```
In [25]:  x=10
          print('Number =',x)
```

          Number = 10

```
In [ ]:   '''To do the input we have the input function.
          This function is used for inputting the values from the keyboard.
          It will take one time one value as input only . This will accept
          all the value in the str / string type

          Syntax is variable_receiving = input("provide_message_here")


          eg.
          '''
```

```
In [24]:    x = input('Enter a number')
            print(x)
```

20

```
In [ ]:     '''To do the number type casting is int and float'''
            x = int(input("Enter a number :"))
            print("value of x =",x)
```

```
In [23]:    # example of float input
            y = float(input("Enter a floating point value"))
            print("Floating point value is =",y)
```

Floating point value is = 20.5555

```
In [22]:    # in three variable , do assignment of values
            #python gives you the multi-assignment facility

            x,y,z =10,20,30
            print(x,"\t",y,"\t",z)
```

10   20   30

```
In [21]:    #this helps in quick swapping

            a,b=2,3
            print(a,b,"<Initially>")
            a,b=b,a

            print(a,b,"<finally>")
```

2 3 <Initially>
3 2 <finally>

```
In [19]:    #Area of Triangle by the heroe's formula

            print(math.sqrt(49)) # primary gives an error
```

7.0

```
In [20]:    import math
            print(math.sqrt(49))
```

7.0

```python
In [18]:   # Area of triangle program
           import math
           a = float(input("Input the value of 1st side"))
           b = float(input("Input the value of 2nd side"))
           c = float(input("Input the value of 3rd side"))
           s = (a+b+c)/2

           ar = math.sqrt(s*(s-a)*(s-b)*(s-c))
           print("The area is : ",ar)
```

        The area is : 6.0

```python
In [ ]:    '''Block of statements /Conditional Statements
           here is a indented space
           a block begins with a colon.

           we use the space that is indent space
           we dont need to write
           its default 4 spaces / 1 tab

           eg.
               block:
                   statement1
                   statement2
                   statement3
                   statement4

               statement #This statement is outside the block

               All conditional statements , loops , classes are block
               like in the functions / classes etc. in C/C++ or Java

           '''
```

```python
#Conditional statements in python

#eg. if condition :
        #-------code

'''
if else format

eg. if condition :
        #-------code
    else:
        #-------code


eg. of the nested if

    if condition1:
        if condition 2:
            #---------code


eg. of else if

    if condition :
        #-------code
    elif condition :
        #-------code
    elif condition :
        #-------code
     else:
        #-------code

eg. of switch case

match var:
    case val1:
        code

    case val2:
        code

    case val2:
        code
    case __: # default

'''
```

```
#eg. of leap year

y = int(input("Enter year")) #input was 2024

if(y%4==0 and y%100!=0)or(y%400==0):
    print("Leap year")
else:
    print("Not a leap year")
```

Leap year