Basic definitions :

Class – container or grouping ex: users

Object – userid (my gmail user id tintin)

Attributes: things that are linked to object ex: user password, login hrs, etc.., office location, telephone number.

Method – what the objects can do ? ex: walking driving running and these are binded to objects.

Functions – are reusable things advanced than methods.

Working with matrix in python

Let’s create a multi dimensional array , below code shows how to create a 2d array

Graphical user interface, text, application

Description automatically generated

from numpy import \*

arr1 = array([

                [1,2,3,4,5,6],

                [4,5,6,7,8,9]

            ])

print(arr1)

#print(arr1.dtype) # we will know what type of data we are working with

#print(arr1.ndim) # will give the dimention

#print(arr1.shape) # will give the shape of the array (no of rows, no of columns)

#print(arr1.size) # no of values

arr2 = arr1.flatten() # flatten will give the 1d array of arr1 and save it to arr2

print(arr2)

#now we will create single dimensional to 1d array

arr3 = arr2.reshape(2,2,3)

print(arr3)

#-------

m = matrix('1 2 3 4 ; 5 6 7 8')

print(m)

#-------------

m = matrix('1 2 ; 3 4 ; 5 6 ; 7 8')

print(m)

#----------------

m = matrix('1 2 3; 4 5 6 ; 7 8 9')

print(m)

#------------- now let's check diagonal elements

m = matrix('1 2 3; 4 5 6 ; 7 8 9')

print(diagonal(m))

print(m.min())

print(m.max())

#-----------

**Matrices:**

**Text, whiteboard

Description automatically generated**

**Text

Description automatically generated with low confidence**

**A picture containing text, clock, clipart, sign

Description automatically generated**

m = matrix(arr1) # will create a matrix and it will look the same as 2d or 3d array, but we can perform more operations.

Multiplication of matrices:

Text

Description automatically generated

from numpy import \*

m1 = matrix('1 2 3; 4 5 6; 7 8 9')

m2 = matrix('9 8 3; 4 5 6; 7 8 9')

m3 = m1 \* m2

print(m3)

For logic on how to multiply matrices: <https://www.youtube.com/watch?v=BtDPVc7H1Zs&ab_channel=Telusko>