Session - 9

> **pip3 list** → It shows the installed library in your system for Python 3.

> **pip3 install _numpy_** → for using this command it download numpy library / module from internet

For import & implement Numpy :

> import numpy

> a = numpy·array (name) ↙ it will change the list into the array as data type

I/O Redirection :

↳ Input / Output !

Output ⟶ >

STDOOT ⟶ >>

Input STDIN ⟶ <

Python libraries !

Python library is a reusable chunk of code that you may want to include in your program

Convert list :- array ( )

↳ If we want to use this funct., we have to load this in some module

| function | → array( ) |

↓

| Program file | == (module) ⟶ Numpy

↓

Software == (Library) ⟶ Numpy

⇒ In Python we install library using (PIP) command

⟶ pip3 install numpy

PIP ↙ ↘ pip2   pip3

↓   ↓
Python 2   Python 3.

```
>>> import numpy
>>> name = [ [ "Gautam", 1111, "V@grail"]
           , [ "Jack", 2222, "J@gmail"]]
>>> a = numpy·array (name)
>>> type (a)
```

→ Column can be accessed using

⇒ a [:, ①] ← 1st rows
   all rows

⇒ a [:, ①:3] ← 1 & 2 column
   all rows

→ Numpy library is used to work with array

Exit code ⤷ Success → 0
         ⤷ failure → 1 or 127

> echo $? → will give the exit code of command used

if we use Terminal and run a command we will not get exit code but,

if we use Python Interprepter (kER) we will get exit code by default after runing a command

Program (Shell) ⤷ Output ⤷ Success – 0—0 channel → STDOUT
                        ⤷ failure – 0—0 channel
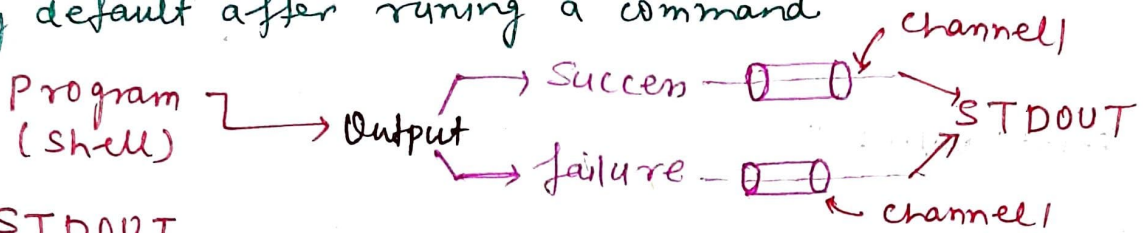
output on screen STDOUT
⤷ Success 1 >

failure 2 >
      channel 1

file Description

0 → STDIN
1 → STDOUT
2 → STDERR

eg   date 1> f·txt → success

nyz ②> f·txt → failure bcz no. available cmd (nyz)
      ⤷ will not direct, to file f·txt
         error msg

cmd ⟶ shell (0 & file)
              2

> nyz &> f·txt
  ⤷ not valid, so no rediretion