 # signup or registring user

```
import cx_Oracle
def main():
    cn=cx_Oracle.connect("system/manager@xe")
    c=cn.cursor()
    n=input("Name:")
    un=input("UserName:")
    p=input("Password:")
    cmd="insert into user_reigster values(:1,:2,:3)"
    c.execute(cmd,[n,un,p])
    k=c.rowcount
    if k==1:
        print("one row inserted")
        cn.commit()
    cn.close()

main()
```

Output:

```
Name:naresh
UserName:nit
Password:nit123
one row inserted
```

Example:

```
# login application or signin application
import cx_Oracle
def main():
    cn=cx_Oracle.connect("system/manager@XE")
    c=cn.cursor()
    uname=input("UserName :")
    pwd=input("Password :")
    c.execute("select * from user_reigster where uname=:1 and
pwd=:2",[uname,pwd])
    row=c.fetchone()
    if row==None:
        print("invalid username or password")
    else:
        print("welcome")
```

```
    cn.close()

main()
```

Output:

```
========== RESTART: F:/python6pm/dbtest9.py ==========
UserName :nit
Password :nit123
welcome

========== RESTART: F:/python6pm/dbtest9.py ==========
UserName :abc
Password :xyz
invalid username or password
```

Numpy and Pandas

Numpy and pandas are data science libraries or api(application programming interface).

Numpy

What is numpy?

Numpy stands for Numerical Python

Numpy is python library used for working with arrays (Vectors and Matrices).

Numpy provide functions to work with linear algebra, fourier transform and matrices.

Numpy is a python library is partially written in python and major part is wrriten in **C language.**

Array is collection of similar type data or elements.

Q: What is difference between Array and List?

List	**Array**
List is a collection of heterogeneous data elements.	Array is collection of homogeneous data elements.
List does not have axis or dimensions.	Array is having axis or dimensions
In List data will stored as objects.	In array data will stored as scalar value.

List is dynamic in size.

Array is fixed in size.

Because of list store data as objects it occupy more space.

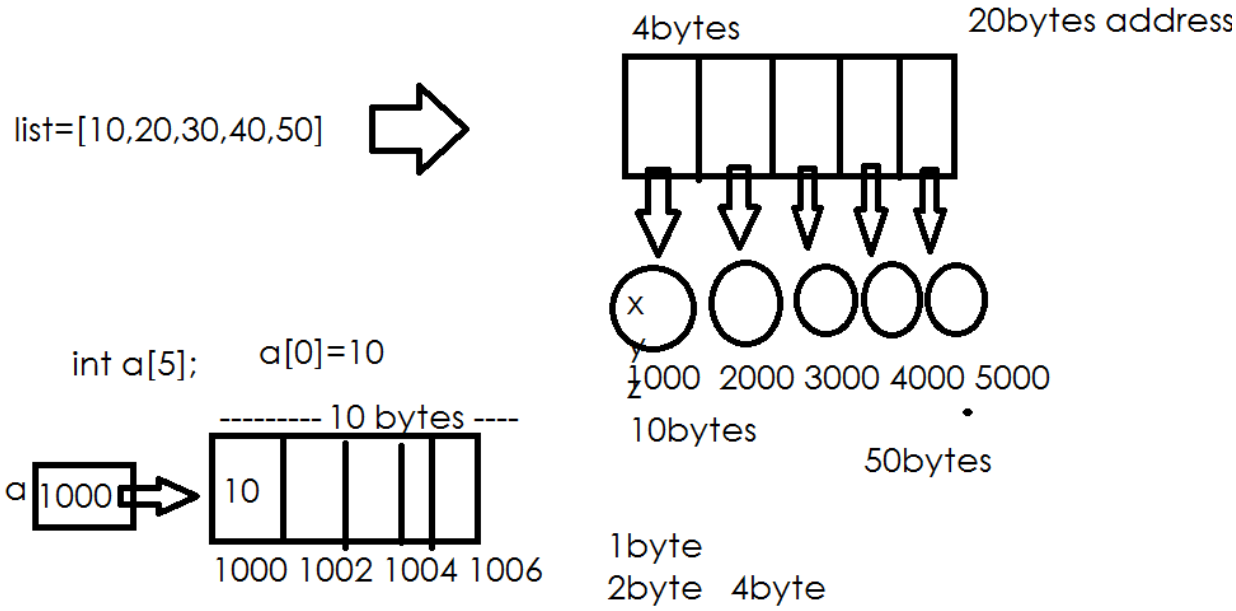
Because of array store data as scalar values it occupy less space.

It is not efficient to process large sets of data.

It is efficient to process large set of data.

List hold only objects types.

Array holds scalar types and objects types.



pip install numpy

(OR)
Download and install anaconda distribution
Anaconda is a python distribution which provides,

1. **Python softwrare**
2. **Data Science and ML Libraries**
    a. **Numpy**
    b. **Pandas**
    c. **Matplotlib**
    d. **Scipy**
    e. **TersonFlow**
    f. **ScikitLearn**

3. **IDE's (Jupiter, Spyder)**

https://www.anaconda.com/products/individual

Jupyter notebook

Jupyter notebook is web application/internet application

The **Jupyter Notebook** is a web-based interactive computing platform. The notebook combines live code, equations, narrative text, visualizations, …

Creating numpy array

Numpy is used to create arrays. The array object in numpy is called ndarray (OR) ndarray is data type or class which represent array object. ndarray class is used to create array objects in python.

Numpy provide various functions for creating array.

1. array() : The function create ndarray object.

dtype: dtype is attribute of array, which define data type, the default type of array object.

Numpy provide the following data types.

1. Integer data types.
    a. Int8 → 1byte
    b. Int16 → 2bytes
    c. Int32 → 4bytes
    d. Int64 → 8bytes
2. Float data types
    a. Float16 → 2bytes
    b. Float32 → 4bytes
    c. Float64 → 8bytes
3. Complex data types
    a. Complex64 → 8bytes
    b. Complex128 → 16bytes
4. Unsigned int data type
    a. Uint8 → 1byte
    b. Uint16 → 2bytes
    c. Uint32 → 4bytes
    d. Uint64 → 8bytes

This data types also represented using single characters.

1. i→ integer
2. f → float
3. u → unsigned int
4. s → string

Syntax of array() function:
array(object,dtype,order,ndim)

object: object is an iterable/sequence which is used to construct array.
dtype: this indicates datatype of array
order: order can be C (row-major), F(column-major)
ndim: This specifies minimum number of dimensions of an output array.

```
In [12]: a=np.array([10,20,30,40,50],dtype=np.int8)
         print(a)
         print(type(a))
         print(a.dtype)
         print(a.ndim)
         print(a.size)

         [10 20 30 40 50]
         <class 'numpy.ndarray'>
         int8
         1
         5
```