CUREYA TASK1

Implementing for,if,operators and variables

In [20]:
```
#USING VARIABLES
x = 3
print(x)
print(type(x)) #Displayiny the tupe of x i.e. integer
```

```
3
<class 'int'>
```

In [23]:
```
#USING FOR LOOP
for i in range(0,8):
    print(i) #printing numbers from 0-7
print("New is i", i) #out of for loop
```

```
0
1
2
3
4
5
6
7
New is i 7
```

In [27]:
```
#USING IF LOOP
n = int(input())
#Determining  whether the number is odd or even
if n%2==0:
    print("The number is even")
else:
    print("The number is odd")
```

```
6
The number is even
```

In [1]:
```
a = 33
b = 33
if b < a:
    print("B is less than A")
elif a == b:
    print("A and B are equal")
```

```
a and b are equal
```

In [48]:
```
#USING OPERATORS
x = int(input())
y = int(input())

print("1. Addition:", end = " ")
print(x+y)
print("2. Subtraction", end = " ")
print(x-y)
```

```
print("3. Multiplication:", end = " ")
print(x*y)
print("4. Division:", end = " ")
print(x/y)
```

```
98
09
1. Addition: 107
2. Subtraction 89
3. Multiplication: 882
4. Division: 10.88888888888889
```

*LISTS

In [49]:

```
#list creation and printing of list

thislist = ["apple", "banana", "cherry"]

print(thislist)
```

```
['apple', 'banana', 'cherry']
```

In [52]:

```
#prints the length of list
print(len(thislist))
#prints the type of list
print(type(thislist))
```

```
3
<class 'list'>
```

*TUPLES

In [55]:

```
#tuple creation and printing tuple, its size and type

thistuple = ("apple", "banana", "cherry")
print(thistuple)
print(len(thistuple))
print(type(thistuple))
```

```
('apple', 'banana', 'cherry')
3
<class 'tuple'>
```

*STRINGS

In [56]:

```
#defining a string

str = " Ruchir "
print(str)
```

```
 Ruchir
```

In [58]:

```
#string concatenation
```

```
str2 = "is a boy"
print(str+str2)
```

```
Ruchir is a boy
```

In [59]:

```
print(str[3])
```

```
c
```

INSTALLING PANDAS,NUMPY,MATPLOTLIB

In [4]:

```
!pip install pandas
!pip install numpy
!pip install matplotlib
!pip install sklearn
```

```
Requirement already satisfied: pandas in c:\users\vrinda bajaj\python 3.7.2\lib\site-pac
kages (1.2.5)
Requirement already satisfied: python-dateutil>=2.7.3 in c:\users\vrinda bajaj\python 3.
7.2\lib\site-packages (from pandas) (2.8.1)
Requirement already satisfied: pytz>=2017.3 in c:\users\vrinda bajaj\python 3.7.2\lib\si
te-packages (from pandas) (2021.1)
Requirement already satisfied: numpy>=1.16.5 in c:\users\vrinda bajaj\python 3.7.2\lib\s
ite-packages (from pandas) (1.21.0)
Requirement already satisfied: six>=1.5 in c:\users\vrinda bajaj\python 3.7.2\lib\site-p
ackages (from python-dateutil>=2.7.3->pandas) (1.16.0)
You are using pip version 18.1, however version 21.1.3 is available.
You should consider upgrading via the 'python -m pip install --upgrade pip' command.
Requirement already satisfied: numpy in c:\users\vrinda bajaj\python 3.7.2\lib\site-pack
ages (1.21.0)
You are using pip version 18.1, however version 21.1.3 is available.
You should consider upgrading via the 'python -m pip install --upgrade pip' command.
Requirement already satisfied: matplotlib in c:\users\vrinda bajaj\python 3.7.2\lib\site
-packages (3.4.2)
Requirement already satisfied: python-dateutil>=2.7 in c:\users\vrinda bajaj\python 3.7.
2\lib\site-packages (from matplotlib) (2.8.1)
Requirement already satisfied: pyparsing>=2.2.1 in c:\users\vrinda bajaj\python 3.7.2\li
b\site-packages (from matplotlib) (2.4.7)
Requirement already satisfied: numpy>=1.16 in c:\users\vrinda bajaj\python 3.7.2\lib\sit
e-packages (from matplotlib) (1.21.0)
Requirement already satisfied: cycler>=0.10 in c:\users\vrinda bajaj\python 3.7.2\lib\si
te-packages (from matplotlib) (0.10.0)
Requirement already satisfied: pillow>=6.2.0 in c:\users\vrinda bajaj\python 3.7.2\lib\s
ite-packages (from matplotlib) (8.3.0)
Requirement already satisfied: kiwisolver>=1.0.1 in c:\users\vrinda bajaj\python 3.7.2\l
ib\site-packages (from matplotlib) (1.3.1)
Requirement already satisfied: six>=1.5 in c:\users\vrinda bajaj\python 3.7.2\lib\site-p
ackages (from python-dateutil>=2.7->matplotlib) (1.16.0)
You are using pip version 18.1, however version 21.1.3 is available.
You should consider upgrading via the 'python -m pip install --upgrade pip' command.
Requirement already satisfied: sklearn in c:\users\vrinda bajaj\python 3.7.2\lib\site-pa
ckages (0.0)
Requirement already satisfied: scikit-learn in c:\users\vrinda bajaj\python 3.7.2\lib\si
te-packages (from sklearn) (0.24.2)
Requirement already satisfied: scipy>=0.19.1 in c:\users\vrinda bajaj\python 3.7.2\lib\s
ite-packages (from scikit-learn->sklearn) (1.7.0)
Requirement already satisfied: joblib>=0.11 in c:\users\vrinda bajaj\python 3.7.2\lib\si
te-packages (from scikit-learn->sklearn) (1.0.1)
```

```
Requirement already satisfied: numpy>=1.13.3 in c:\users\vrinda bajaj\python 3.7.2\lib\s
ite-packages (from scikit-learn->sklearn) (1.21.0)
Requirement already satisfied: threadpoolctl>=2.0.0 in c:\users\vrinda bajaj\python 3.7.
2\lib\site-packages (from scikit-learn->sklearn) (2.1.0)
```

```
You are using pip version 18.1, however version 21.1.3 is available.
You should consider upgrading via the 'python -m pip install --upgrade pip' command.
```

*NUMPY

In [5]:

```
# importing numpy package
import numpy as np

# creating two matrices
p = [[13, 11], [9, 7]]
q = [[9, 1], [6, 5]]
print("Matrix p :")
print(p)
print("Matrix q :")
print(q)

# product of 2 matrices
op = np.multiply(p, q)

# printing the output
print("The matrix multiplication is :")
print(op)
```

```
Matrix p :
[[13, 11], [9, 7]]
Matrix q :
[[9, 1], [6, 5]]
The matrix multiplication is :
[[117  11]
 [ 54  35]]
```

In [1]:

```
# Python program to inverse
# a matrix using numpy

# Import required package
import numpy as np

# Taking a 3 * 3 matrix
A = np.array([[6, 1, 1],
              [4, -2, 5],
              [2, 8, 7]])

# Calculating the inverse of the matrix
print(np.linalg.inv(A))
```

```
[[ 0.17647059 -0.00326797 -0.02287582]
 [ 0.05882353 -0.13071895  0.08496732]
 [-0.11764706  0.1503268   0.05228758]]
```

In [3]:

```
# Subtracting elements of the matrix
# importing numpy package
import numpy as np

# creating two matrices
```

```
p = [[21, 17], [19, 37]]
q = [[22, 13], [26, 25]]
print("Matrix p :")
print(p)
print("Matrix q :")
print(q)

# product of 2 matrices
op = np.subtract(p, q)

# printing the output
print("The matrix subtracted is :")
print(op)
```

```
Matrix p :
[[21, 17], [19, 37]]
Matrix q :
[[22, 13], [26, 25]]
The matrix subtracted is :
[[-1  4]
 [-7 12]]
```

*PANDAS

In [1]:

```
# Importing the library
import pandas as pd

print("All the marks are out of 30")
# inserting data into the list.
data = {'Subject':['Maths', 'SST', 'Science'],
        'Marks':[20, 21, 19]}

dataFrame = pd.DataFrame(data)

print(dataFrame)
```

```
All the marks are out of 30
   Subject  Marks
0    Maths     20
1      SST     21
2  Science     19
```

In [2]:

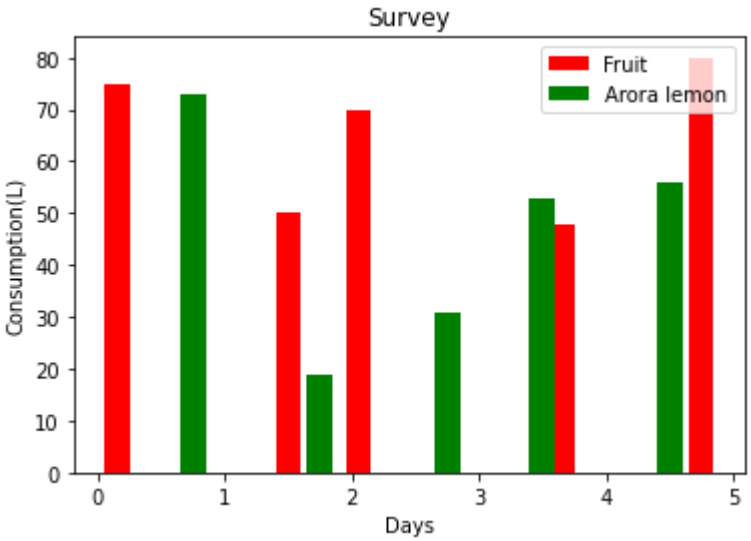
```
# import pandas library
import pandas as pd

# List initialization
list = [['bat', 650], ['racket', 1000],
       ['football', 800], ['basketball', 700]]

# creating df object with columns specified
df = pd.DataFrame(list, columns =['item', 'price'])
print(df )
```

```
         item  price
0         bat    650
1      racket   1000
2    football    800
3  basketball    700
```

*MATPLOTLIB

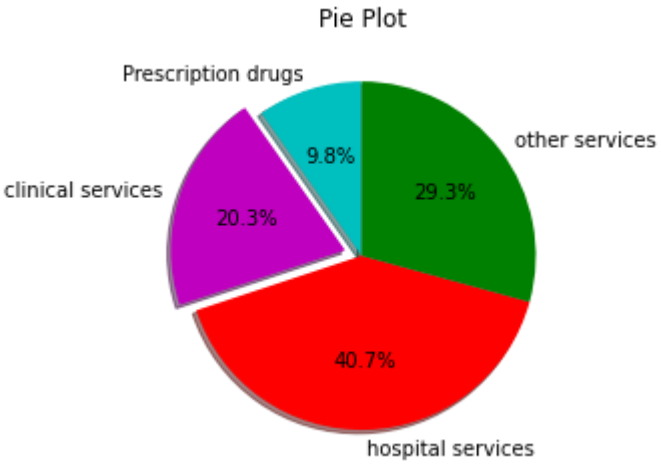
In [17]:

```
import matplotlib.pyplot as plt

plt.bar([0.15,1.5,2.05,3.65,4.75],[75,50,70,48,80],
label="Fruit",color='r', width = 0.2)
plt.bar([.75,1.75,2.75,3.5,4.5],[73,19,31,53,56],
label="Arora lemon", color='g',width=.2)
plt.legend()
plt.xlabel('Days')
plt.ylabel('Consumption(L)')
plt.title('Survey')
plt.show()
```



In [22]:

```
import matplotlib.pyplot as plt

slices = [12,25,50,36]
activities = ['Prescription drugs','clinical services','hospital services','other servi
cols = ['c','m','r','g']
plt.pie(slices,
labels=activities,
colors=cols,
startangle=90,
shadow= True,
explode=(0,0.1,0,0),
autopct='%1.1f%%')
plt.title('Pie Plot')
plt.show()
```


Pie Plot
Prescription drugs
9.8%
other services
29.3%
clinical services
20.3%
40.7%
hospital services