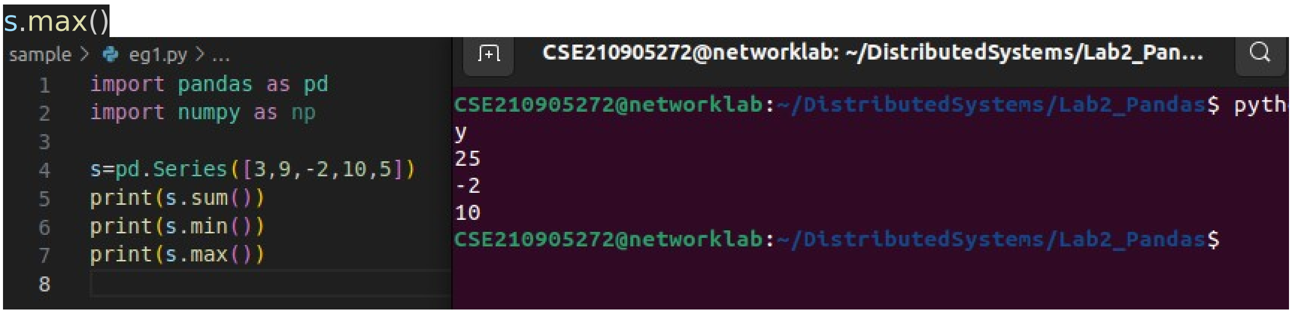
LAB – 2
PYTHON BASIC PRACTICE – II

Introduction to PANDAS

```
import pandas as pd
import numpy as np

s=pd.Series([3,9,-2,10,5])
s.sum()
s.min()
s.max()
```



sample > eg1.py > ...

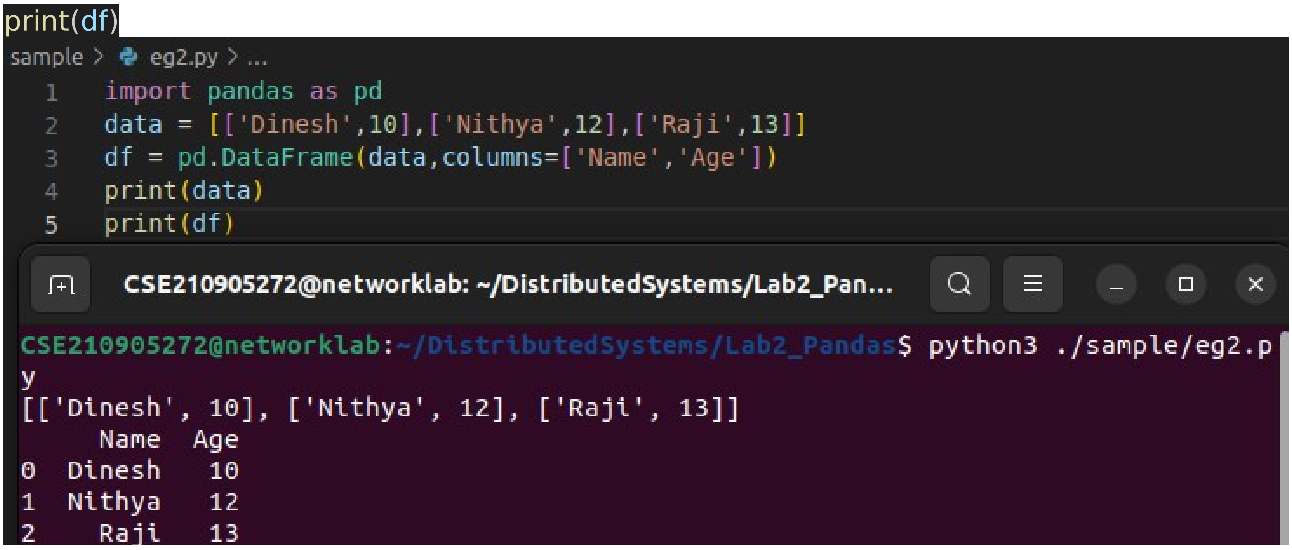
```
import pandas as pd
import numpy as np

s=pd.Series([3,9,-2,10,5])
print(s.sum())
print(s.min())
print(s.max())

```

CSE210905272@networklab: ~/DistributedSystems/Lab2_Pan...

```
CSE210905272@networklab:~/DistributedSystems/Lab2_Pandas$ pyth
y
25
-2
10
CSE210905272@networklab:~/DistributedSystems/Lab2_Pandas$
```

Creating a Data Frame

```
import pandas as pd
data = [['Dinesh',10],['Nithya',12],['Raji',13]]
df = pd.DataFrame(data,columns=['Name','Age'])
print(data)
print(df)
```



sample > eg2.py > ...

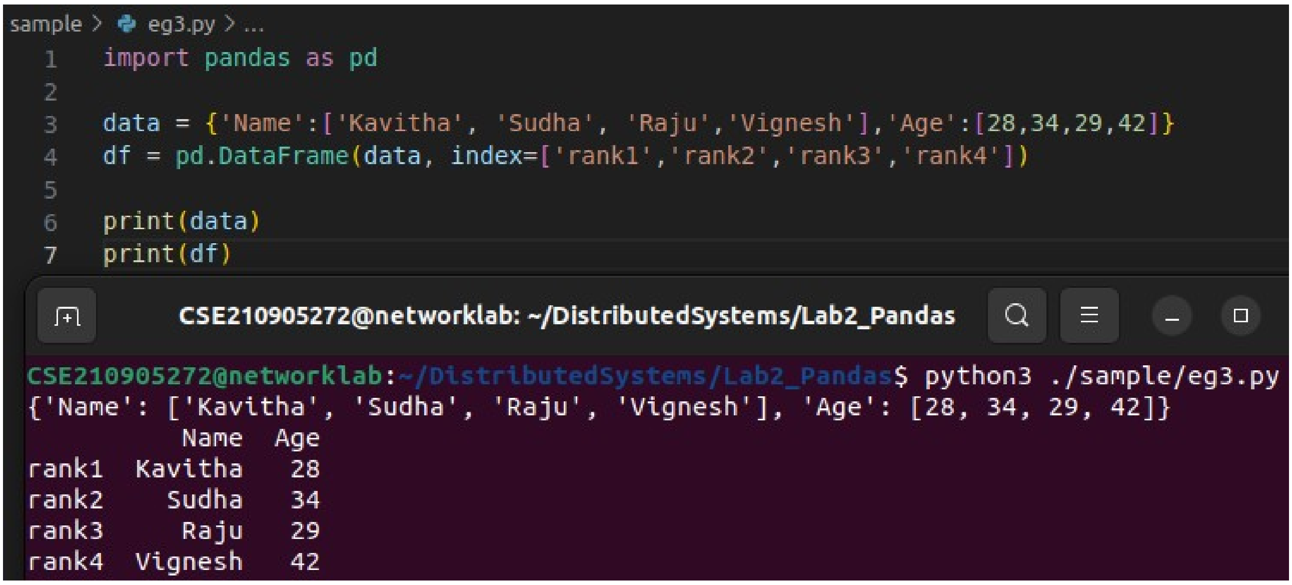
```
import pandas as pd
data = [['Dinesh',10],['Nithya',12],['Raji',13]]
df = pd.DataFrame(data,columns=['Name','Age'])
print(data)
print(df)
```

CSE210905272@networklab: ~/DistributedSystems/Lab2_Pan...

```
CSE210905272@networklab:~/DistributedSystems/Lab2_Pandas$ python3 ./sample/eg2.p
y
[['Dinesh', 10], ['Nithya', 12], ['Raji', 13]]
     Name  Age
0  Dinesh   10
1  Nithya   12
2    Raji   13
```

Indexed Data Frame

```
import pandas as pd

data = {'Name':['Kavitha', 'Sudha', 'Raju','Vignesh'],'Age':[28,34,29,42]}
df = pd.DataFrame(data, index=['rank1','rank2','rank3','rank4'])

print(data)
print(df)
```

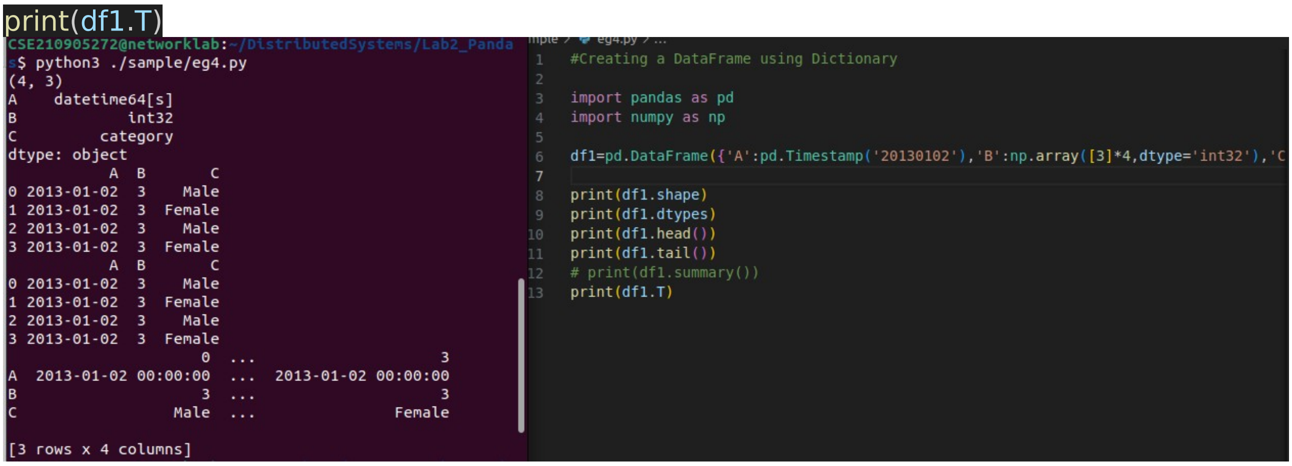


```
import pandas as pd

data = {'Name':['Kavitha', 'Sudha', 'Raju','Vignesh'],'Age':[28,34,29,42]}
df = pd.DataFrame(data, index=['rank1','rank2','rank3','rank4'])

print(data)
print(df)
```

```
CSE210905272@networklab:~/DistributedSystems/Lab2_Pandas$ python3 ./sample/eg3.py
{'Name': ['Kavitha', 'Sudha', 'Raju', 'Vignesh'], 'Age': [28, 34, 29, 42]}
          Name  Age
rank1  Kavitha   28
rank2    Sudha   34
rank3     Raju   29
rank4  Vignesh   42
```

Creating a DataFrame using Dictionary

```
import pandas as pd
import numpy as np

df1=pd.DataFrame({'A':pd.Timestamp('20130102'),'B':np.array([3]*4,dtype='int32'),'C':pd.Categorical(['Male','Female','Male','Female'])})

print(df1.shape)
print(df1.dtypes)
print(df1.head())
print(df1.tail())
# print(df1.summary())
print(df1.T)
```



```
CSE210905272@networklab:~/DistributedSystems/Lab2_Pandas$ python3 ./sample/eg4.py
(4, 3)
A    datetime64[s]
B            int32
C         category
dtype: object
           A  B       C
0 2013-01-02  3    Male
1 2013-01-02  3  Female
2 2013-01-02  3    Male
3 2013-01-02  3  Female
           A  B       C
0 2013-01-02  3    Male
1 2013-01-02  3  Female
2 2013-01-02  3    Male
3 2013-01-02  3  Female
                     0  ...                    3
A  2013-01-02 00:00:00  ...  2013-01-02 00:00:00
B                    3  ...                    3
C                 Male  ...               Female

[3 rows x 4 columns]
```

```
#Creating a DataFrame using Dictionary

import pandas as pd
import numpy as np

df1=pd.DataFrame({'A':pd.Timestamp('20130102'),'B':np.array([3]*4,dtype='int32'),'C

print(df1.shape)
print(df1.dtypes)
print(df1.head())
print(df1.tail())
# print(df1.summary())
print(df1.T)
```

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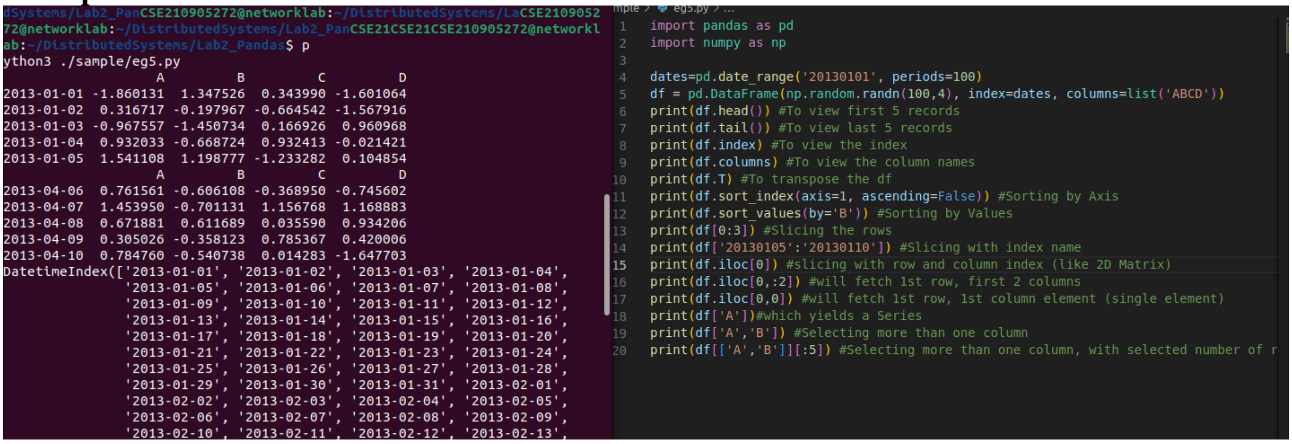
Creating a DataFrame using Dictionary

```
import pandas as pd
import numpy as np
```

```
dates=pd.date_range('20130101', periods=100)
df = pd.DataFrame(np.random.randn(100,4), index=dates, columns=list('ABCD'))
print(df.head()) #To view first 5 records
print(df.tail()) #To view last 5 records
print(df.index) #To view the index
print(df.columns) #To view the column names
print(df.T) #To transpose the df
print(df.sort_index(axis=1, ascending=False)) #Sorting by Axis
print(df.sort_values(by='B')) #Sorting by Values
print(df[0:3]) #Slicing the rows
print(df['20130105':'20130110']) #Slicing with index name
print(df.iloc[0]) #slicing with row and column index (like 2D Matrix)
print(df.iloc[0,:2]) #will fetch 1st row, first 2 columns
print(df.iloc[0,0]) #will fetch 1st row, 1st column element (single element)
print(df['A'])#which yields a Series
print(df['A','B']) #Selecting more than one column
print(df[['A','B']][:5]) #Selecting more than one column, with selected number of records
```

Boolean Indexing
df[df.A>0], will fetch all positive values of A column
Include a 6th column (a categorical) character data
df[‘F’]=[‘Male’,’Female’,’Female’,’Male’,’Female’,’Female’]
Setting by assigning with a numpy array
df.loc[:,’D’]=np.array([5]*len(df))
Deleting a row or column
df.drop (‘col_name’, axis =1, inplace=True)
will drop the column name specified in col_name
df.drop (‘row_index’, axis =0, inplace=True)
Df_new= pd.concat (df1, df2, axis=1)
Df_new.shape
D= pd.concat (A, B, axis=0)
D.shape



```
dSystems/Lab2_PanCSE210905272@networklab:~/DistributedSystems/LaCSE2109052
72@networklab:~/DistributedSystems/Lab2_PanCSE21CSE21CSE210905272@networkl
ab:~/DistributedSystems/Lab2_Pandas$ p
ython3 ./sample/eg5.py
                   A         B         C         D
2013-01-01 -1.860131  1.347526  0.343990 -1.601064
2013-01-02  0.316717 -0.197967 -0.664542 -1.567916
2013-01-03 -0.967557 -1.450734  0.166926  0.960968
2013-01-04  0.932033 -0.668724  0.932413 -0.021421
2013-01-05  1.541108  1.198777 -1.233282  0.104854
                   A         B         C         D
2013-04-06  0.761561 -0.606108 -0.368950 -0.745602
2013-04-07  1.453950 -0.701131  1.156768  1.168883
2013-04-08  0.671881  0.611689  0.035590  0.934206
2013-04-09  0.305026 -0.358123  0.785367  0.420006
2013-04-10  0.784760 -0.540738  0.014283 -1.647703
DatetimeIndex(['2013-01-01', '2013-01-02', '2013-01-03', '2013-01-04',
               '2013-01-05', '2013-01-06', '2013-01-07', '2013-01-08',
               '2013-01-09', '2013-01-10', '2013-01-11', '2013-01-12',
               '2013-01-13', '2013-01-14', '2013-01-15', '2013-01-16',
               '2013-01-17', '2013-01-18', '2013-01-19', '2013-01-20',
               '2013-01-21', '2013-01-22', '2013-01-23', '2013-01-24',
               '2013-01-25', '2013-01-26', '2013-01-27', '2013-01-28',
               '2013-01-29', '2013-01-30', '2013-01-31', '2013-02-01',
               '2013-02-02', '2013-02-03', '2013-02-04', '2013-02-05',
               '2013-02-06', '2013-02-07', '2013-02-08', '2013-02-09',
               '2013-02-10', '2013-02-11', '2013-02-12', '2013-02-13',
```

```
import pandas as pd
import numpy as np

dates=pd.date_range('20130101', periods=100)
df = pd.DataFrame(np.random.randn(100,4), index=dates, columns=list('ABCD'))
print(df.head()) #To view first 5 records
print(df.tail()) #To view last 5 records
print(df.index) #To view the index
print(df.columns) #To view the column names
print(df.T) #To transpose the df
print(df.sort_index(axis=1, ascending=False)) #Sorting by Axis
print(df.sort_values(by='B')) #Sorting by Values
print(df[0:3]) #Slicing the rows
print(df['20130105':'20130110']) #Slicing with index name
print(df.iloc[0]) #slicing with row and column index (like 2D Matrix)
print(df.iloc[0,:2]) #will fetch 1st row, first 2 columns
print(df.iloc[0,0]) #will fetch 1st row, 1st column element (single element)
print(df['A'])#which yields a Series
print(df['A','B']) #Selecting more than one column
print(df[['A','B']][:5]) #Selecting more than one column, with selected number of r
```

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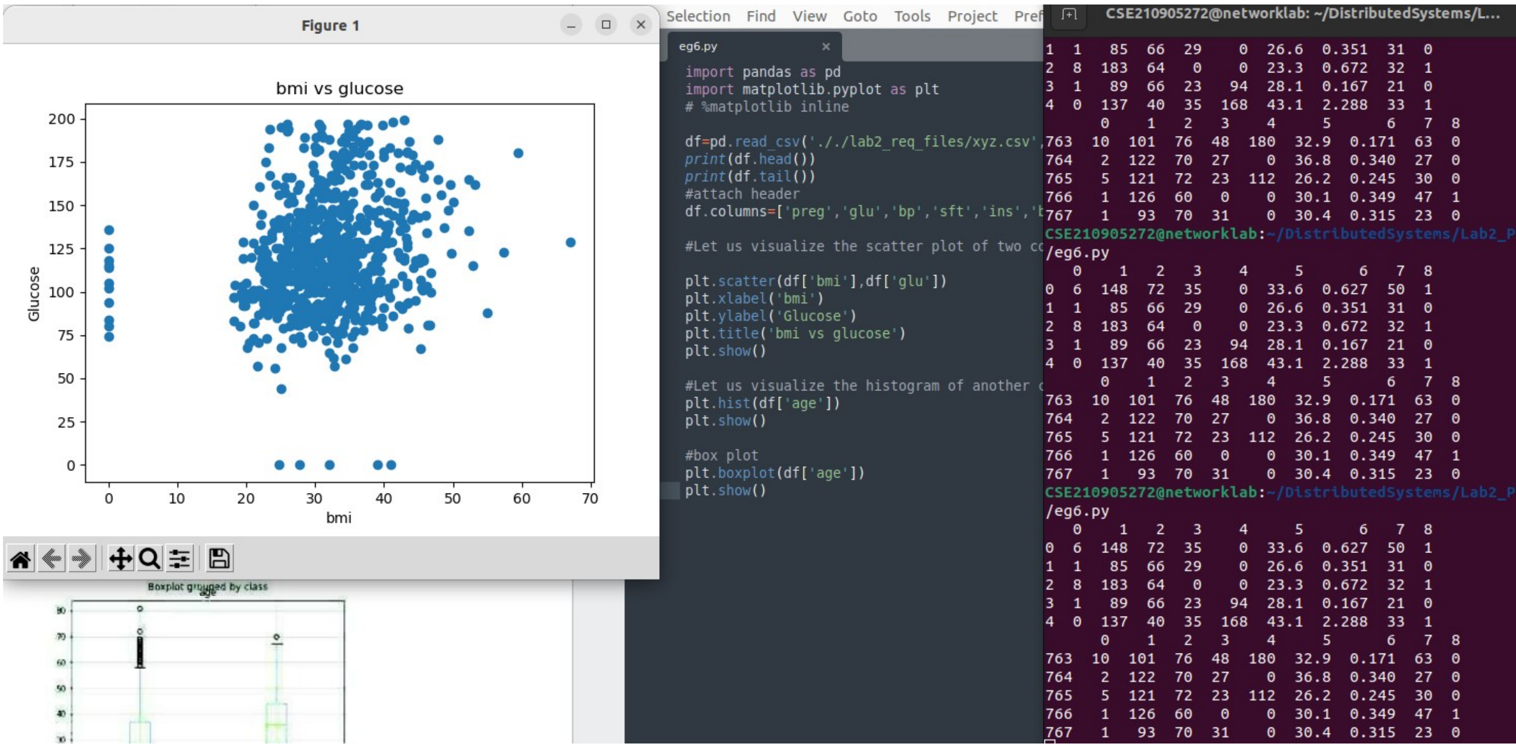
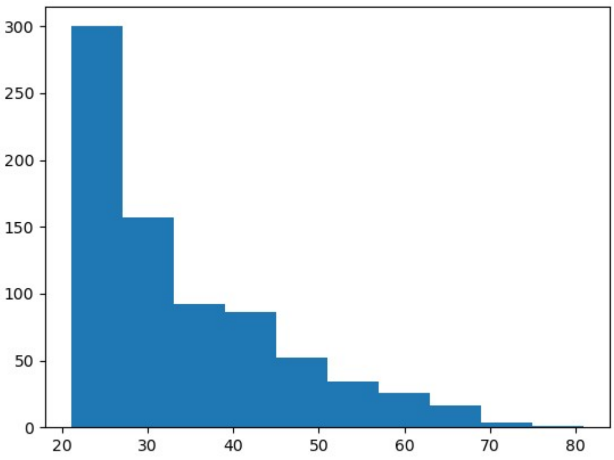
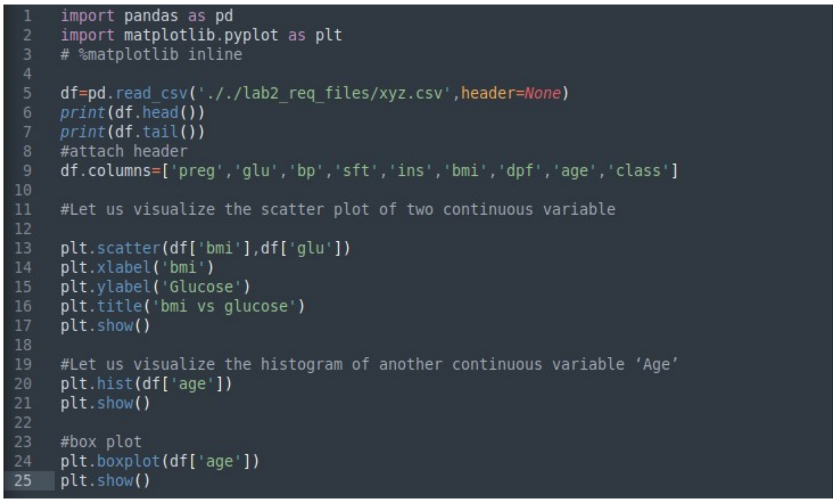
I/O operations



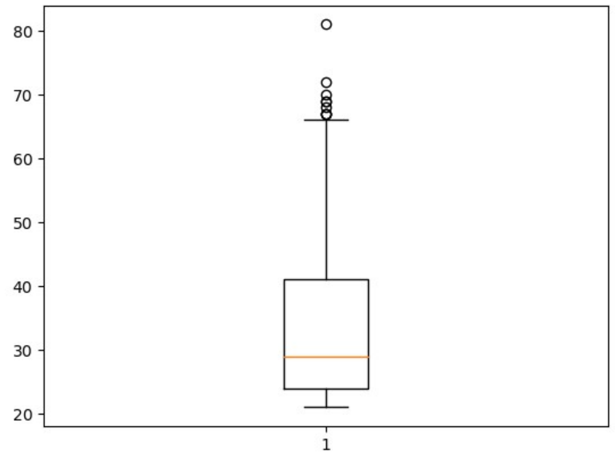
```
import pandas as pd
import matplotlib.pyplot as plt
# %matplotlib inline

df=pd.read_csv('././lab2_req_files/xyz.csv',
print(df.head())
print(df.tail())
#attach header
df.columns=['preg','glu','bp','sft','ins','b

#Let us visualize the scatter plot of two co

plt.scatter(df['bmi'],df['glu'])
plt.xlabel('bmi')
plt.ylabel('Glucose')
plt.title('bmi vs glucose')
plt.show()

#Let us visualize the histogram of another c
plt.hist(df['age'])
plt.show()

#box plot
plt.boxplot(df['age'])
plt.show()
```

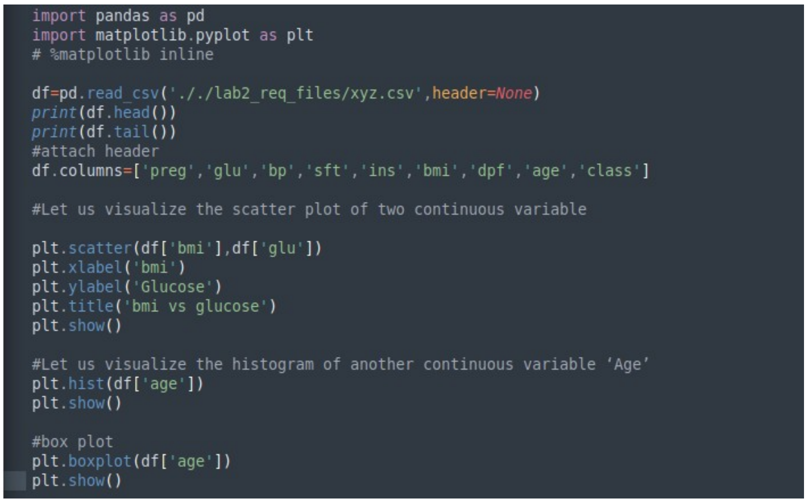
```
CSE210905272@networklab: ~/DistributedSystems/L...
1  1   85  66  29    0  26.6  0.351  31  0
2  8  183  64   0    0  23.3  0.672  32  1
3  1   89  66  23   94  28.1  0.167  21  0
4  0  137  40  35  168  43.1  2.288  33  1
      0    1   2   3    4     5      6   7  8
763  10  101  76  48  180  32.9  0.171  63  0
764   2  122  70  27    0  36.8  0.340  27  0
765   5  121  72  23  112  26.2  0.245  30  0
766   1  126  60   0    0  30.1  0.349  47  1
767   1   93  70  31    0  30.4  0.315  23  0
CSE210905272@networklab:~/DistributedSystems/Lab2_P
/eg6.py
   0    1   2   3    4     5      6   7  8
0  6  148  72  35    0  33.6  0.627  50  1
1  1   85  66  29    0  26.6  0.351  31  0
2  8  183  64   0    0  23.3  0.672  32  1
3  1   89  66  23   94  28.1  0.167  21  0
4  0  137  40  35  168  43.1  2.288  33  1
      0    1   2   3    4     5      6   7  8
763  10  101  76  48  180  32.9  0.171  63  0
764   2  122  70  27    0  36.8  0.340  27  0
765   5  121  72  23  112  26.2  0.245  30  0
766   1  126  60   0    0  30.1  0.349  47  1
767   1   93  70  31    0  30.4  0.315  23  0
CSE210905272@networklab:~/DistributedSystems/Lab2_P
/eg6.py
   0    1   2   3    4     5      6   7  8
0  6  148  72  35    0  33.6  0.627  50  1
1  1   85  66  29    0  26.6  0.351  31  0
2  8  183  64   0    0  23.3  0.672  32  1
3  1   89  66  23   94  28.1  0.167  21  0
4  0  137  40  35  168  43.1  2.288  33  1
      0    1   2   3    4     5      6   7  8
763  10  101  76  48  180  32.9  0.171  63  0
764   2  122  70  27    0  36.8  0.340  27  0
765   5  121  72  23  112  26.2  0.245  30  0
766   1  126  60   0    0  30.1  0.349  47  1
767   1   93  70  31    0  30.4  0.315  23  0
```





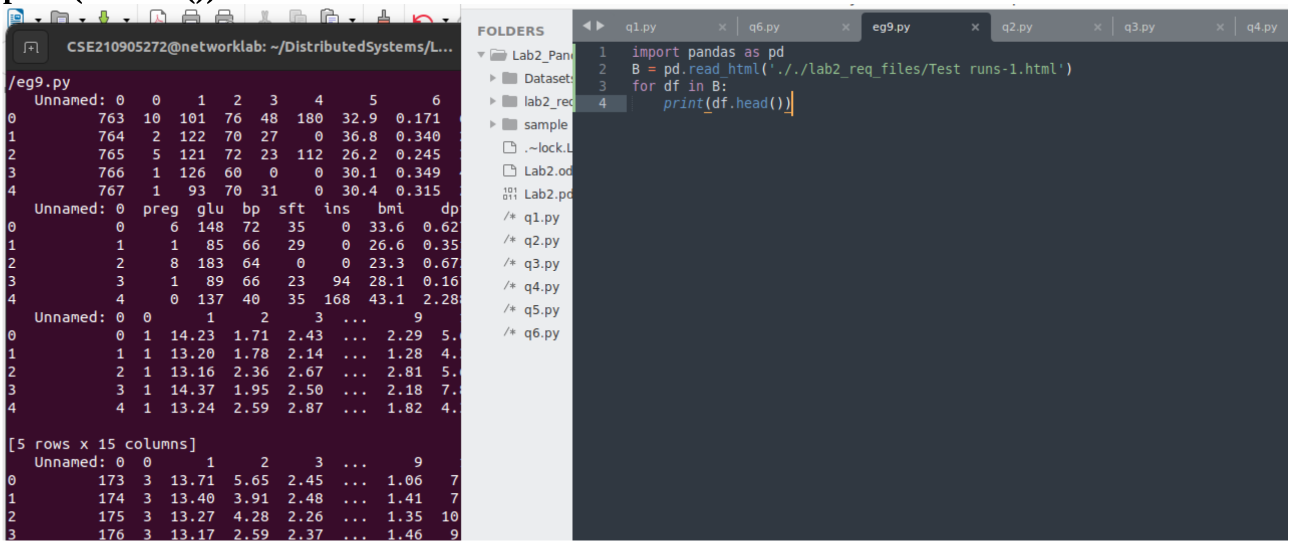
```
import pandas as pd
import matplotlib.pyplot as plt
# %matplotlib inline

df=pd.read_csv('././lab2_req_files/xyz.csv',header=None)
print(df.head())
print(df.tail())
#attach header
df.columns=['preg','glu','bp','sft','ins','bmi','dpf','age','class']

#Let us visualize the scatter plot of two continuous variable

plt.scatter(df['bmi'],df['glu'])
plt.xlabel('bmi')
plt.ylabel('Glucose')
plt.title('bmi vs glucose')
plt.show()

#Let us visualize the histogram of another continuous variable ‘Age’
plt.hist(df['age'])
plt.show()

#box plot
plt.boxplot(df['age'])
plt.show()
```





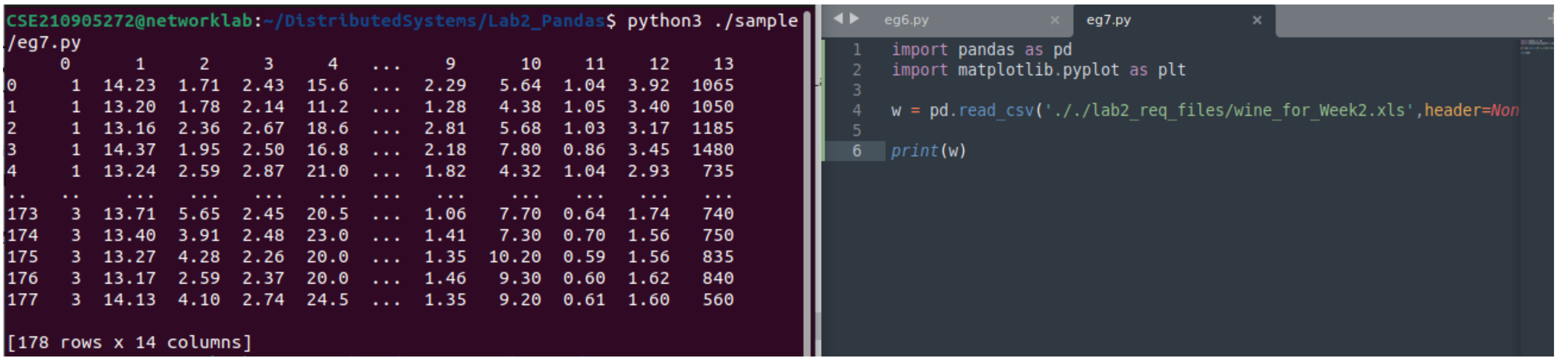
```
import pandas as pd
import matplotlib.pyplot as plt
# %matplotlib inline

df=pd.read_csv('././lab2_req_files/xyz.csv',header=None)
print(df.head())
print(df.tail())
#attach header
df.columns=['preg','glu','bp','sft','ins','bmi','dpf','age','class']

#Let us visualize the scatter plot of two continuous variable

plt.scatter(df['bmi'],df['glu'])
plt.xlabel('bmi')
plt.ylabel('Glucose')
plt.title('bmi vs glucose')
plt.show()

#Let us visualize the histogram of another continuous variable ‘Age’
plt.hist(df['age'])
plt.show()

#box plot
plt.boxplot(df['age'])
plt.show()
```

```
#W = pd.read_csv('xyz.xls',header=None)
#W.head() #XLS file format also, we can read using pd.read_csv
#D= np.loadtxt(‘xyz.data',delimiter=",")
#D[:5,:] # this file is loaded in Numpy 2D array format
# Reading a XLSX file format
#G=pd.read_excel(xyz.xlsx',sheet_name='Sheet1')
#Pandas can read table tabs off of html. For example:
B = pd.read_html('././lab2_req_files/Test runs-1.html')
for df in B:
print(df.head())
```



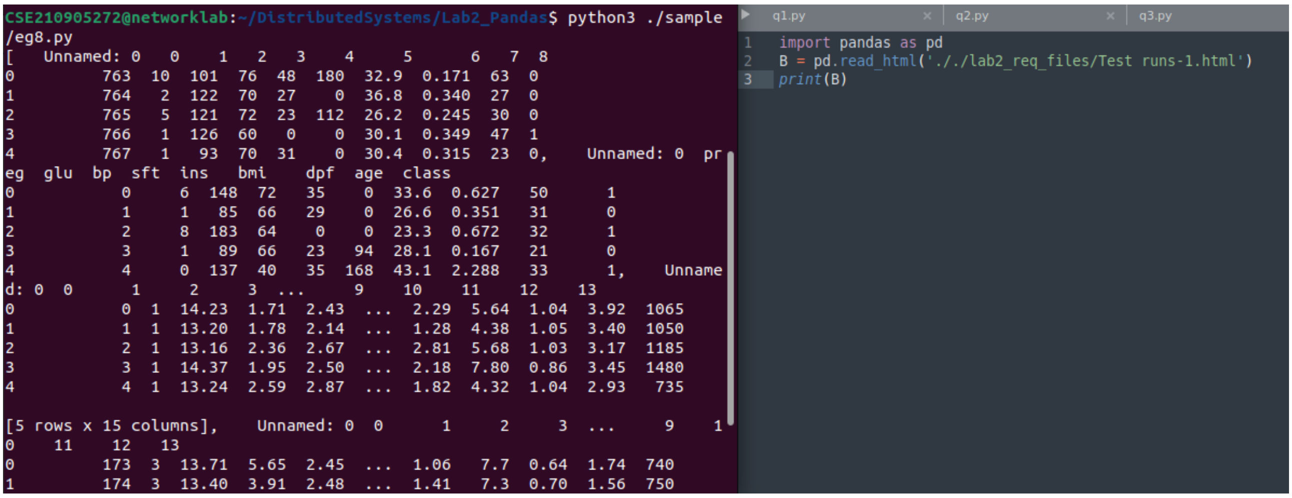
```
/eg9.py
   Unnamed: 0   0    1   2   3    4     5      6
0         763  10  101  76  48  180  32.9  0.171
1         764   2  122  70  27    0  36.8  0.340
2         765   5  121  72  23  112  26.2  0.245
3         766   1  126  60   0    0  30.1  0.349
4         767   1   93  70  31    0  30.4  0.315
   Unnamed: 0  preg  glu  bp  sft  ins   bmi    dp
0           0     6  148  72   35    0  33.6  0.62
1           1     1   85  66   29    0  26.6  0.35
2           2     8  183  64    0    0  23.3  0.67
3           3     1   89  66   23   94  28.1  0.16
4           4     0  137  40   35  168  43.1  2.28
   Unnamed: 0  0      1     2     3  ...     9
0           0  1  14.23  1.71  2.43  ...  2.29  5.
1           1  1  13.20  1.78  2.14  ...  1.28  4.
2           2  1  13.16  2.36  2.67  ...  2.81  5.
3           3  1  14.37  1.95  2.50  ...  2.18  7.
4           4  1  13.24  2.59  2.87  ...  1.82  4.

[5 rows x 15 columns]
   Unnamed: 0  0      1     2     3  ...     9
0         173  3  13.71  5.65  2.45  ...  1.06   7
1         174  3  13.40  3.91  2.48  ...  1.41   7
2         175  3  13.27  4.28  2.26  ...  1.35  10
3         176  3  13.17  2.59  2.37  ...  1.46   9
```

```
import pandas as pd
B = pd.read_html('././lab2_req_files/Test runs-1.html')
for df in B:
    print(df.head())
```



```
CSE210905272@networklab:~/DistributedSystems/Lab2_Pandas$ python3 ./sample
/eg7.py
     0      1     2     3     4  ...     9     10    11    12    13
0    1  14.23  1.71  2.43  15.6  ...  2.29   5.64  1.04  3.92  1065
1    1  13.20  1.78  2.14  11.2  ...  1.28   4.38  1.05  3.40  1050
2    1  13.16  2.36  2.67  18.6  ...  2.81   5.68  1.03  3.17  1185
3    1  14.37  1.95  2.50  16.8  ...  2.18   7.80  0.86  3.45  1480
4    1  13.24  2.59  2.87  21.0  ...  1.82   4.32  1.04  2.93   735
..  ..    ...   ...   ...   ...  ...   ...    ...   ...   ...   ...
173  3  13.71  5.65  2.45  20.5  ...  1.06   7.70  0.64  1.74   740
174  3  13.40  3.91  2.48  23.0  ...  1.41   7.30  0.70  1.56   750
175  3  13.27  4.28  2.26  20.0  ...  1.35  10.20  0.59  1.56   835
176  3  13.17  2.59  2.37  20.0  ...  1.46   9.30  0.60  1.62   840
177  3  14.13  4.10  2.74  24.5  ...  1.35   9.20  0.61  1.60   560

[178 rows x 14 columns]
```

```
import pandas as pd
import matplotlib.pyplot as plt

w = pd.read_csv('././lab2_req_files/wine_for_Week2.xls',header=Non

print(w)
```



```
CSE210905272@networklab:~/DistributedSystems/Lab2_Pandas$ python3 ./sample
/eg8.py
[   Unnamed: 0   0    1   2   3    4     5      6   7  8
0         763  10  101  76  48  180  32.9  0.171  63  0
1         764   2  122  70  27    0  36.8  0.340  27  0
2         765   5  121  72  23  112  26.2  0.245  30  0
3         766   1  126  60   0    0  30.1  0.349  47  1
4         767   1   93  70  31    0  30.4  0.315  23  0,    Unnamed: 0  pr
eg  glu  bp  sft  ins   bmi    dpf  age  class
0            0     6  148  72   35    0  33.6  0.627   50      1
1            1     1   85  66   29    0  26.6  0.351   31      0
2            2     8  183  64    0    0  23.3  0.672   32      1
3            3     1   89  66   23   94  28.1  0.167   21      0
4            4     0  137  40   35  168  43.1  2.288   33      1,    Unname
d: 0  0      1     2     3  ...     9    10    11    12    13
0            0  1  14.23  1.71  2.43  ...  2.29  5.64  1.04  3.92  1065
1            1  1  13.20  1.78  2.14  ...  1.28  4.38  1.05  3.40  1050
2            2  1  13.16  2.36  2.67  ...  2.81  5.68  1.03  3.17  1185
3            3  1  14.37  1.95  2.50  ...  2.18  7.80  0.86  3.45  1480
4            4  1  13.24  2.59  2.87  ...  1.82  4.32  1.04  2.93   735

[5 rows x 15 columns],    Unnamed: 0  0      1     2     3  ...     9    1
0    11    12   13
0         173  3  13.71  5.65  2.45  ...  1.06   7.7  0.64  1.74  740
1         174  3  13.40  3.91  2.48  ...  1.41   7.3  0.70  1.56  750
```

```python
import pandas as pd
B = pd.read_html('././lab2_req_files/Test runs-1.html')
print(B)
```

Reading a TXT file format
H = pd.read_table('HR_for_week2.txt')

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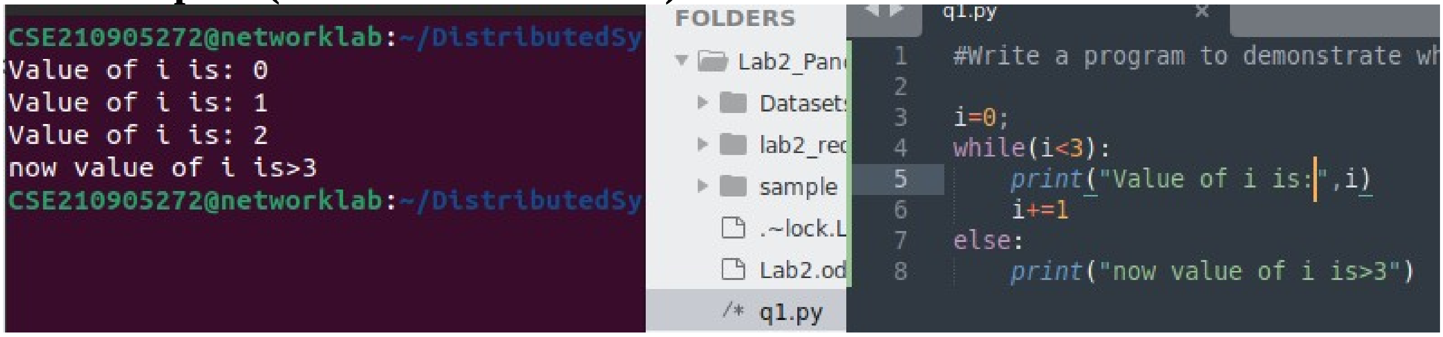
LAB EXERCISES

Q1)Write a program to demonstrate while loop with else

->

```
i=0;
while(i<3):
        print("Value of i is:",i)
        i+=1
else:
        print("now value of i is>3")
```



```
CSE210905272@networklab:~/DistributedSy
Value of i is: 0
Value of i is: 1
Value of i is: 2
now value of i is>3
CSE210905272@networklab:~/DistributedSy
```

```python
#Write a program to demonstrate wh

i=0;
while(i<3):
    print("Value of i is:",i)
    i+=1
else:
    print("now value of i is>3")
```

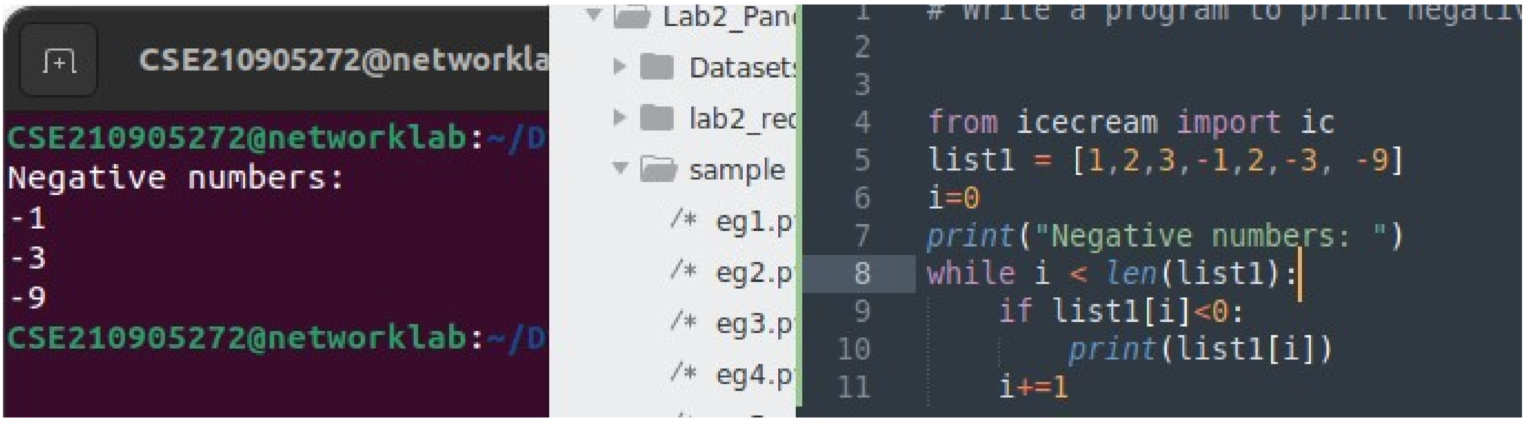
.

Q2)Write a program to print negative Numbers in a List using while loop.

->

```
from icecream import ic
list1 = [1,2,3,-1,2,-3, -9]
i=0
```

```
print("Negative numbers: ")
while i < len(list1):
        if list1[i]<0:
                print(list1[i])
        i+=1
```



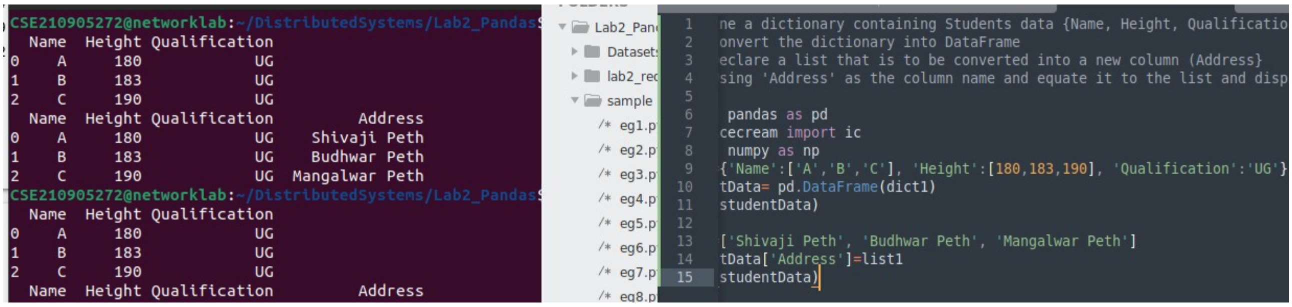
```
CSE210905272@networkla
CSE210905272@networklab:~/D
Negative numbers:
-1
-3
-9
CSE210905272@networklab:~/D
```

```
# write a program to print negativ


from icecream import ic
list1 = [1,2,3,-1,2,-3, -9]
i=0
print("Negative numbers: ")
while i < len(list1):
    if list1[i]<0:
        print(list1[i])
    i+=1
```

Q3Define a dictionary containing Students data {Name, Height, Qualification}.
a) Convert the dictionary into DataFrame
b) Declare a list that is to be converted into a new column (Address}
c) Using 'Address' as the column name and equate it to the list and display the result.)

->

```
import pandas as pd
from icecream import ic
import numpy as np
dict1={'Name':['A','B','C'], 'Height':[180,183,190],
'Qualification':'UG'}
studentData= pd.DataFrame(dict1)
print(studentData)

list1=['Shivaji Peth', 'Budhwar Peth', 'Mangalwar Peth']
studentData['Address']=list1
print(studentData)
```



```
CSE210905272@networklab:~/DistributedSystems/Lab2_Pandas$
  Name  Height Qualification
0    A     180            UG
1    B     183            UG
2    C     190            UG
  Name  Height Qualification          Address
0    A     180            UG    Shivaji Peth
1    B     183            UG    Budhwar Peth
2    C     190            UG  Mangalwar Peth
CSE210905272@networklab:~/DistributedSystems/Lab2_Pandas$
  Name  Height Qualification
0    A     180            UG
1    B     183            UG
2    C     190            UG
  Name  Height Qualification          Address
```

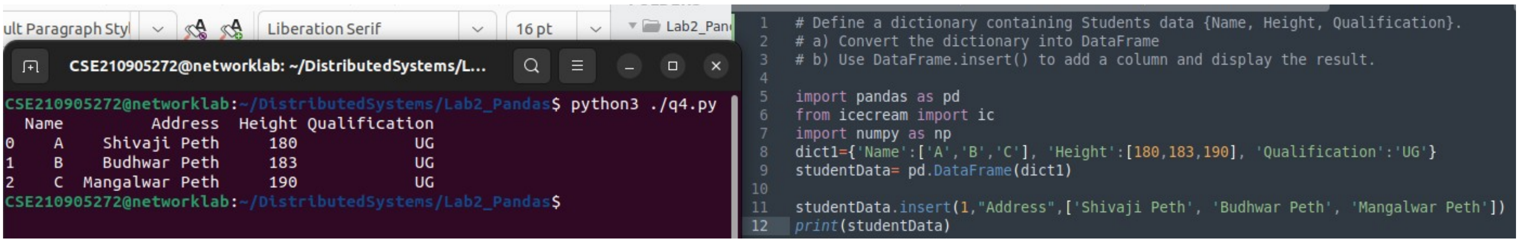
```
ne a dictionary containing Students data {Name, Height, Qualificatio
onvert the dictionary into DataFrame
eclare a list that is to be converted into a new column (Address}
sing 'Address' as the column name and equate it to the list and disp

 pandas as pd
cecream import ic
 numpy as np
{'Name':['A','B','C'], 'Height':[180,183,190], 'Qualification':'UG'}
tData= pd.DataFrame(dict1)
studentData)

['Shivaji Peth', 'Budhwar Peth', 'Mangalwar Peth']
tData['Address']=list1
studentData)
```

•

Q4) Define a dictionary containing Students data {Name, Height, Qualification}.
a) Convert the dictionary into DataFrame
b) Use DataFrame.insert() to add a column and display the result.

->

```
import pandas as pd
from icecream import ic
import numpy as np
dict1={'Name':['A','B','C'], 'Height':[180,183,190],
'Qualification':'UG'}
studentData= pd.DataFrame(dict1)

studentData.insert(1,"Address",['Shivaji Peth', 'Budhwar Peth',
'Mangalwar Peth'])
print(studentData)
```



```
CSE210905272@networklab:~/DistributedSystems/Lab2_Pandas$ python3 ./q4.py
  Name         Address  Height Qualification
0    A    Shivaji Peth     180            UG
1    B    Budhwar Peth     183            UG
2    C  Mangalwar Peth     190            UG
CSE210905272@networklab:~/DistributedSystems/Lab2_Pandas$
```

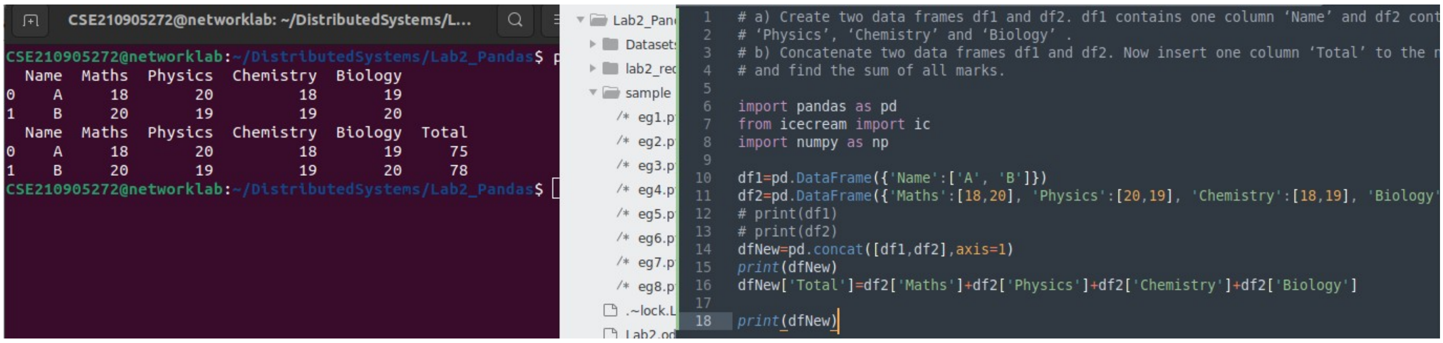
```
# Define a dictionary containing Students data {Name, Height, Qualification}.
# a) Convert the dictionary into DataFrame
# b) Use DataFrame.insert() to add a column and display the result.

import pandas as pd
from icecream import ic
import numpy as np
dict1={'Name':['A','B','C'], 'Height':[180,183,190], 'Qualification':'UG'}
studentData= pd.DataFrame(dict1)

studentData.insert(1,"Address",['Shivaji Peth', 'Budhwar Peth', 'Mangalwar Peth'])
print(studentData)
```

•

Q5)
a) Create two data frames df1 and df2. df1 contains one column ‘Name’ and df2 contains 4 columns ‘Maths’,
‘Physics’, ‘Chemistry’ and ‘Biology’ .
b) Concatenate two data frames df1 and df2. Now insert one column ‘Total’ to the new data frame df_new
and find the sum of all marks.

->

```
import pandas as pd
from icecream import ic
import numpy as np

df1=pd.DataFrame({'Name':['A', 'B']})
df2=pd.DataFrame({'Maths':[18,20], 'Physics':[20,19], 'Chemistry':
[18,19], 'Biology':[19,20]})
# print(df1)
# print(df2)
dfNew=pd.concat([df1,df2],axis=1)
print(dfNew)
dfNew['Total']=df2['Maths']+df2['Physics']+df2['Chemistry']
+df2['Biology']

print(dfNew)
```



```
CSE210905272@networklab:~/DistributedSystems/Lab2_Pandas$ p
  Name  Maths  Physics  Chemistry  Biology
0    A     18       20         18       19
1    B     20       19         19       20
  Name  Maths  Physics  Chemistry  Biology  Total
0    A     18       20         18       19     75
1    B     20       19         19       20     78
CSE210905272@networklab:~/DistributedSystems/Lab2_Pandas$
```

```
# a) Create two data frames df1 and df2. df1 contains one column ‘Name’ and df2 cont
# ‘Physics’, ‘Chemistry’ and ‘Biology’ .
# b) Concatenate two data frames df1 and df2. Now insert one column ‘Total’ to the n
# and find the sum of all marks.

import pandas as pd
from icecream import ic
import numpy as np

df1=pd.DataFrame({'Name':['A', 'B']})
df2=pd.DataFrame({'Maths':[18,20], 'Physics':[20,19], 'Chemistry':[18,19], 'Biology'
# print(df1)
# print(df2)
dfNew=pd.concat([df1,df2],axis=1)
print(dfNew)
dfNew['Total']=df2['Maths']+df2['Physics']+df2['Chemistry']+df2['Biology']

print(dfNew)
```

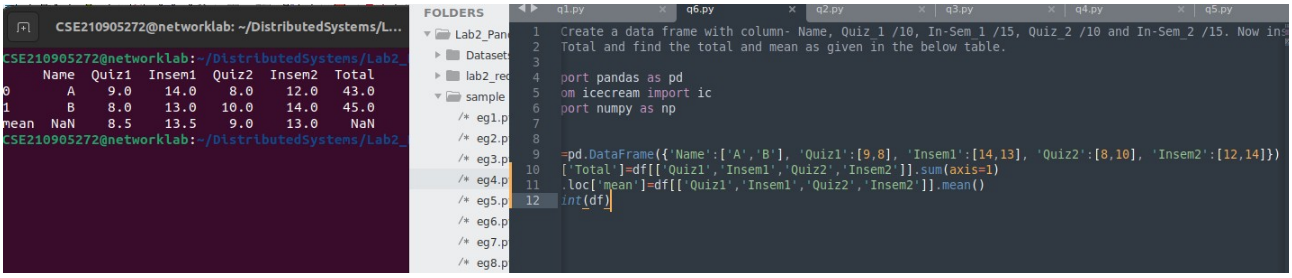
.

Q6) Create a data frame with column- Name, Quiz_1 /10, In-Sem_1 /15, Quiz_2 /10 and In-Sem_2 /15. Now insert a column Total and find the total and mean as given in the below table.

->

```
import pandas as pd
from icecream import ic
import numpy as np


df=pd.DataFrame({'Name':['A','B'], 'Quiz1':[9,8], 'Insem1':[14,13],
'Quiz2':[8,10], 'Insem2':[12,14]})
df['Total']=df[['Quiz1','Insem1','Quiz2','Insem2']].sum()
```

```
df.loc['mean']=df[['Quiz1','Insem1','Quiz2','Insem2']].mean()
print(df)
```



```
CSE210905272@networklab:~/DistributedSystems/Lab2_
     Name  Quiz1  Insem1  Quiz2  Insem2  Total
0       A    9.0    14.0    8.0    12.0   43.0
1       B    8.0    13.0   10.0    14.0   45.0
mean  NaN    8.5    13.5    9.0    13.0    NaN
CSE210905272@networklab:~/DistributedSystems/Lab2_
```

```
Create a data frame with column- Name, Quiz_1 /10, In-Sem_1 /15, Quiz_2 /10 and In-Sem_2 /15. Now ins
Total and find the total and mean as given in the below table.

port pandas as pd
om icecream import ic
port numpy as np


=pd.DataFrame({'Name':['A','B'], 'Quiz1':[9,8], 'Insem1':[14,13], 'Quiz2':[8,10], 'Insem2':[12,14]})
['Total']=df[['Quiz1','Insem1','Quiz2','Insem2']].sum(axis=1)
.loc['mean']=df[['Quiz1','Insem1','Quiz2','Insem2']].mean()
int(df)
```