OUPUT FOR ALL 40 PROGRAMS

NAME: **HARIF.K**

REG NO:**192124098**

SUBJECT: **QUERY PROCESSING**

CODE: **DSA0502**

1.Write a Pandas program to select distinct department id from employees file.

```
   Dept_id         dept_name  id  locationid
0       10    Administration   1        1500
1       20         Marketing   2        1600
2       30        Purchasing   3        1700
3       40  Human Resources    4        1800
4       50          Shipping   5        1900
0    10
1    20
2    30
3    40
4    50
Name: Dept_id, dtype: int64
```

2. Write a Pandas program to display the ID for those employees who did two or more jobs in the past.

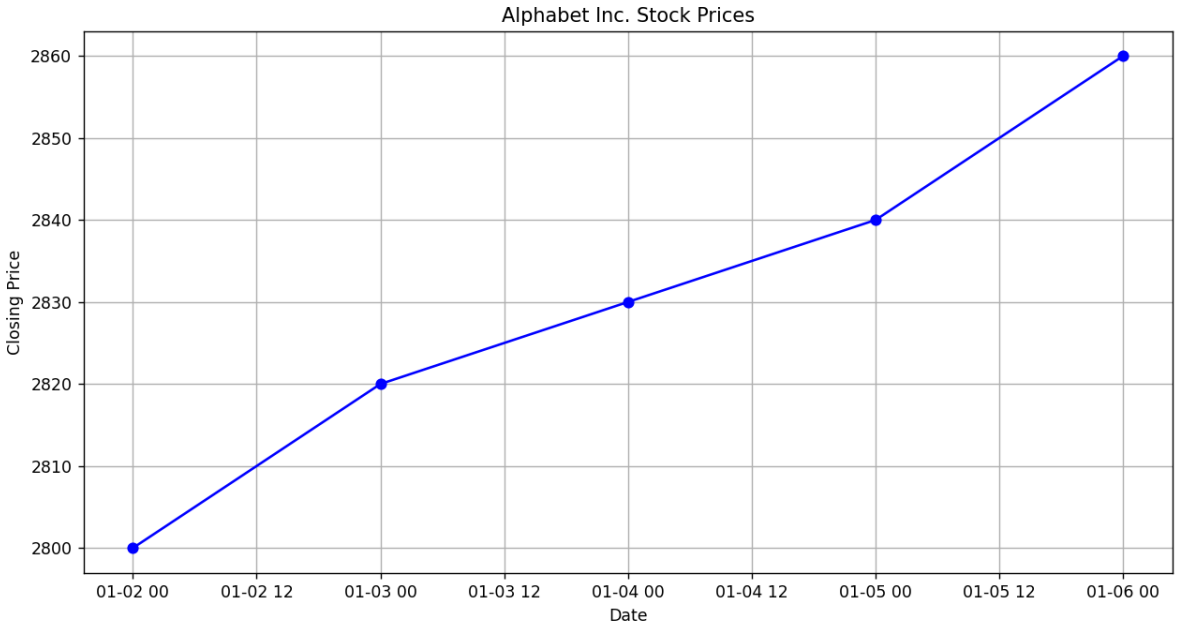
```
   EMPLOYEE_ID  START_DATE    END_DATE      JOB_ID  DEPARTMENT_ID
0          102  2001-01-13  2006-07-24     IT_PROG             60
1          101  1997-09-21  2001-10-27  AC_ACCOUNT            110
2          101  2001-10-28  2005-03-15      AC_MGR            110
3          201  2004-02-17  2007-12-19      MK_REP             20
4          114  2006-03-24  2007-12-31    ST_CLERK             50
5          122  2007-01-01  2007-12-31    ST_CLERK             50
6          200  1995-09-17  2001-06-17     AD_ASST             90
7          176  2006-03-24  2006-12-31      SA_REP             80
8          176  2007-01-01  2007-12-31      SA_MAN             80
9          200  2002-07-01  2006-12-31  AC_ACCOUNT             90
EMPLOYEE_ID
101    2
102    1
114    1
122    1
176    2
200    2
201    1
Name: JOB_ID, dtype: int64
Int64Index([101, 176, 200], dtype='int64', name='EMPLOYEE_ID')
```

3. Write a Pandas program to display the details of jobs in descending sequence on job title.

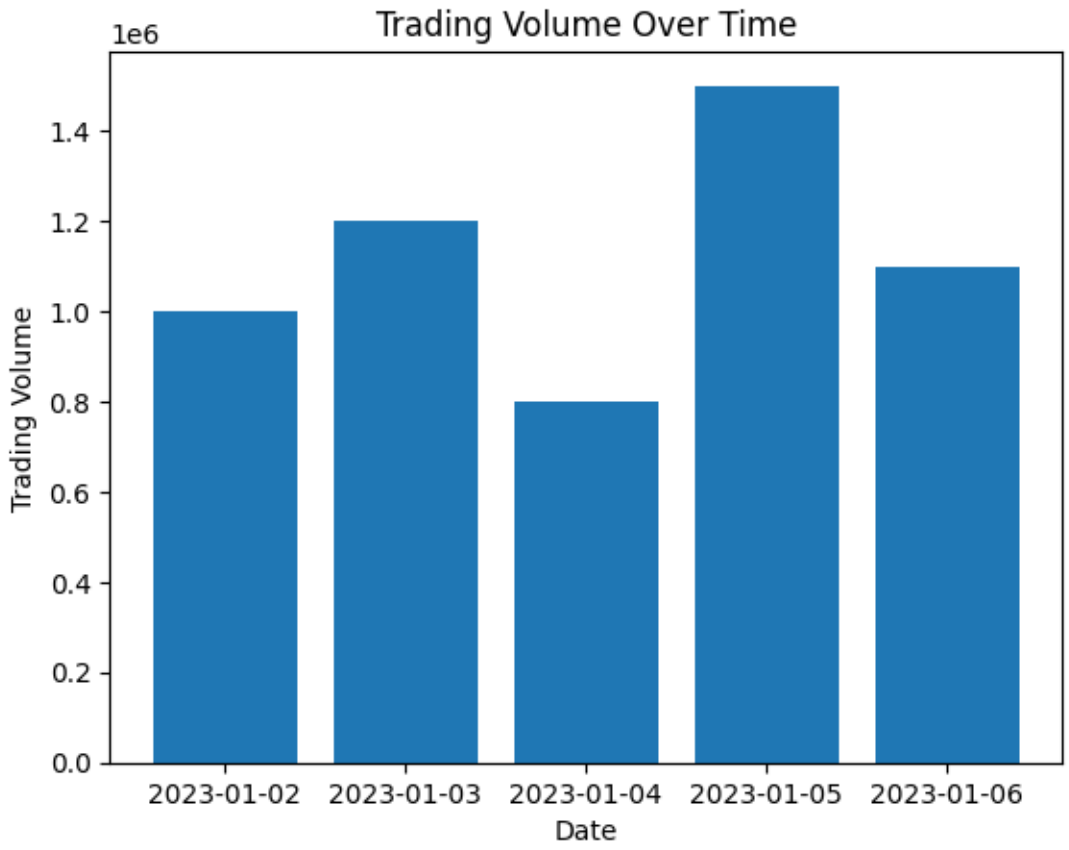
sorted by job title

	JOB_ID	JOB_TITLE	MIN_SALARY	MAX_SALARY
11	ST_MAN	Stock Manager	5500	8500
12	ST_CLERK	Stock Clerk	2008	5000
13	SH_CLERK	Shipping Clerk	2500	5500
8	SA_REP	Sales Representative	6000	12008
7	SA_MAN	Sales Manager	10000	20080
9	PU_MAN	Purchasing Manager	8000	15000
10	PU_CLERK	Purchasing Clerk	2500	5500
18	PR_REP	Public Relations Representative	4500	10500
6	AC_ACCOUNT	Public Accountant	4200	9000
14	IT_PROG	Programmer	4000	10000
0	AD_PRES	President	20080	40000
16	MK_REP	Marketing Representative	4000	9000
15	MK_MAN	Marketing Manager	9000	15000
17	HR_REP	Human Resources Representative	4000	9000
3	FI_MGR	Finance Manager	8200	16000
1	AD_VP	Administration Vice President	15000	30000
2	AD_ASST	Administration Assistant	3000	6000
5	AC_MGR	Accounting Manager	8200	16000
4	FI_ACCOUNT	Accountant	4200	9000

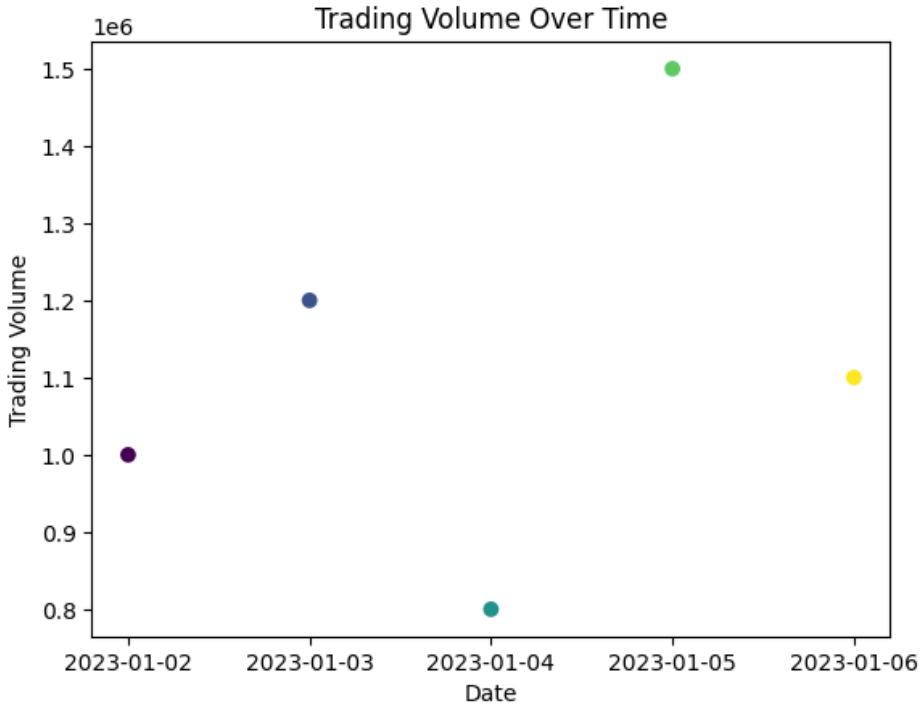
4. Write a Pandas program to create a line plot of the historical stock prices of Alphabet Inc. between two specific dates.



5.Write a Pandas program to create a bar plot of the trading volume of Alphabet Inc. stock between two specific dates.



6. Write a Pandas program to create a scatter plot of the trading volume/stock prices of Alphabet Inc. stock between two specific dates.



7. Write a Pandas program to create a Pivot table and find the maximum and minimum sale value of the items.(refer sales_data table)

```
  name  sales  profit
0    A    100      12
1    B    200      14
2    C    300      23
3    D    350       7
         max   min
       sales sales
profit
7        350   350
12       100   100
14       200   200
23       300   300
profit
7     350
12    100
14    200
23    300
Name: (max, sales), dtype: int64
profit
7     350
12    100
14    200
23    300
Name: (min, sales), dtype: int64
```

8. Write a Pandas program to create a Pivot table and find the item wise unit sold. .(refer sales_data table).

```
Original DataFrame:
  name  sales  profit
0    A    100      12
1    B    200      14
2    C    300      23
3    D    350       7

Pivot table for item-wise unit sold:
profit   7    12   14   23
name
A          0  100    0    0
B          0    0  200    0
C          0    0    0  300
D        350    0    0    0
```

9. Write a Pandas program to create a Pivot table and find the total sale amount region wise, manager wise, salesman wise. . (refer sales data table)

		Sale_amt
Region	Manager	
Central	Hermann	298018.0
	Martha	131780.0
	Timothy	6075.0
East	Douglas	40500.0
	Martha	203646.0
West	Douglas	38336.0
	Timothy	67088.0

10. Create a data frame of ten rows, four columns with random values. Write a Pandas program to highlight the negative numbers red and positive numbers black.

	A	B	C	D
0	0.496714	-0.138264	0.647689	1.523030
1	-0.234153	-0.234137	1.579213	0.767435
2	-0.469474	0.542560	-0.463418	-0.465730
3	0.241962	-1.913280	-1.724918	-0.562288
4	-1.012831	0.314247	-0.908024	-1.412304
5	1.465649	-0.225776	0.067528	-1.424748
6	-0.544383	0.110923	-1.150994	0.375698
7	-0.600639	-0.291694	-0.601707	1.852278
8	-0.013497	-1.057711	0.822545	-1.220844
9	0.208864	-1.959670	-1.328186	0.196861

11.. Create a data frame of ten rows, four columns with random values. Convert some values to nan values. Write a Pandas program which will highlight the nan values.

	A	B	C	D
0	0.496714	-0.138264	0.647689	1.523030
1	-0.234153	-0.234137	1.579213	0.767435
2	-0.469474	nan	-0.463418	-0.465730
3	0.241962	-1.913280	-1.724918	-0.562288
4	-1.012831	0.314247	-0.908024	-1.412304
5	1.465649	-0.225776	0.067528	nan
6	-0.544383	0.110923	-1.150994	0.375698
7	-0.600639	-0.291694	-0.601707	1.852278
8	-0.013497	-1.057711	nan	-1.220844
9	0.208864	-1.959670	-1.328186	0.196861

12. Create a data frame of ten rows, four columns with random values. Write a Pandas program to set dataframe background Color black and font color yellow.

	Column1	Column2	Column3	Column4
0	0.573429	0.441949	0.796874	0.065566
1	0.820037	0.259022	0.179464	0.912874
2	0.560891	0.596891	0.784673	0.088654
3	0.350762	0.655286	0.970128	0.199388
4	0.543500	0.275695	0.362812	0.471953
5	0.879589	0.857972	0.087886	0.440997
6	0.114097	0.888724	0.343833	0.765551
7	0.031439	0.285061	0.571110	0.012744
8	0.952810	0.659560	0.165513	0.680663
9	0.288743	0.972120	0.631616	0.275603

13. Write a Pandas program to detect missing values of a given DataFrame. Display True or False.

```
       A      B      C
0  False  False  False
1  False   True  False
2   True  False  False
3  False  False  False
```

14. . Write a Pandas program to find and replace the missing values in a given DataFrame which do not have any valuable information.

```
Original DataFrame:
     A    B   C
0  1.0  5.0   9
1  2.0  NaN  10
2  NaN  7.0  11
3  4.0  8.0  12

DataFrame after replacing missing values:
          A         B   C
0  1.000000  5.000000   9
1  2.000000  6.666667  10
2  2.333333  7.000000  11
3  4.000000  8.000000  12
```

15.. Write a Pandas program to keep the rows with at least 2 NaN values in a given DataFrame.

```
Original DataFrame:
     A    B     C
0  1.0  5.0   9.0
1  NaN  NaN  10.0
2  3.0  7.0   NaN
3  NaN  NaN   NaN

DataFrame with rows having at least 2 NaN values:
     A    B    C
0  1.0  5.0  9.0
2  3.0  7.0  NaN
```

16. Write a Pandas program to split the following data frame into groups based on school code. Also check the type of Group By object.

```
school
s001    [Alberto Franco, Eesha Hinton]
s002      [Gino Mcneill, Gino Mcneill]
s003                    [Ryan Parkes]
s004                   [David Parkes]
Name: name, dtype: object
```

17.Write a Pandas program to split the following dataframe by school code and get mean, min, and max value of age for each school.

	age			height			weight		
	min	max	mean	min	max	mean	min	max	mean
school									
s001	12	13	12.5	167	173	170.0	30	35	32.5
s002	12	14	13.0	151	192	171.5	31	32	31.5
s003	13	13	13.0	186	186	186.0	33	33	33.0
s004	12	12	12.0	159	159	159.0	32	32	32.0

18.Write a Pandas program to split the following given dataframe into groups based on school code and class.

```
(('s001', 'V'),   class school           name date_Of_Birth  age  height  weight  address
0     V   s001  Alberto Franco    15/05/2002   12     173      35  street1)
(('s001', 'VI'),   class school          name date_Of_Birth  age  height  weight  address
3    VI   s001  Eesha Hinton    25/09/1998   13     167      30  street1)
(('s002', 'V'),   class school          name date_Of_Birth  age  height  weight  address
1     V   s002  Gino Mcneill    17/05/2002   12     192      32  street2
4     V   s002  Gino Mcneill    11/05/2002   14     151      31  street2)
(('s003', 'VI'),   class school         name date_Of_Birth  age  height  weight  address
2    VI   s003  Ryan Parkes    16/02/1999   13     186      33  street3)
(('s004', 'VI'),   class school          name date_Of_Birth  age  height  weight  address
5    VI   s004  David Parkes    15/09/1997   12     159      32  street4)
```

19.Write a Pandas program to display the dimensions or shape of the World alcohol consumption dataset. Also extract the column names from the dataset.

```
(5, 5)
```

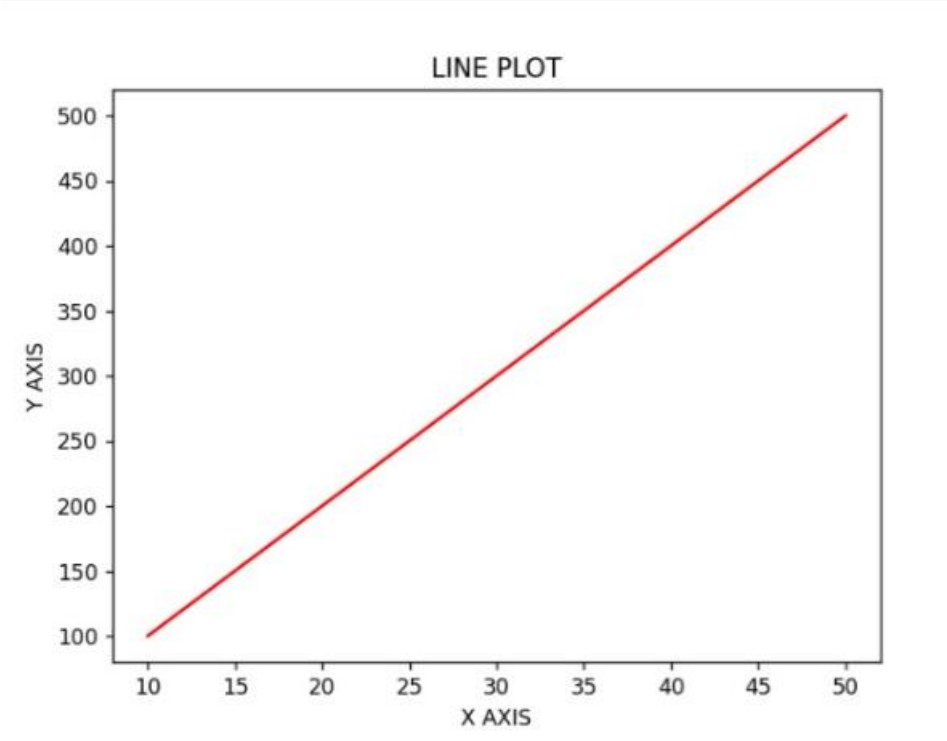
20. Write a Pandas program to find the index of a given substring of a DataFrame column.

```
      Column1
0       apple
1      banana
2      cherry
3        date
4  elderberry
0   -1
1   -1
2    2
3   -1
4    6
Name: Column1, dtype: int64
```

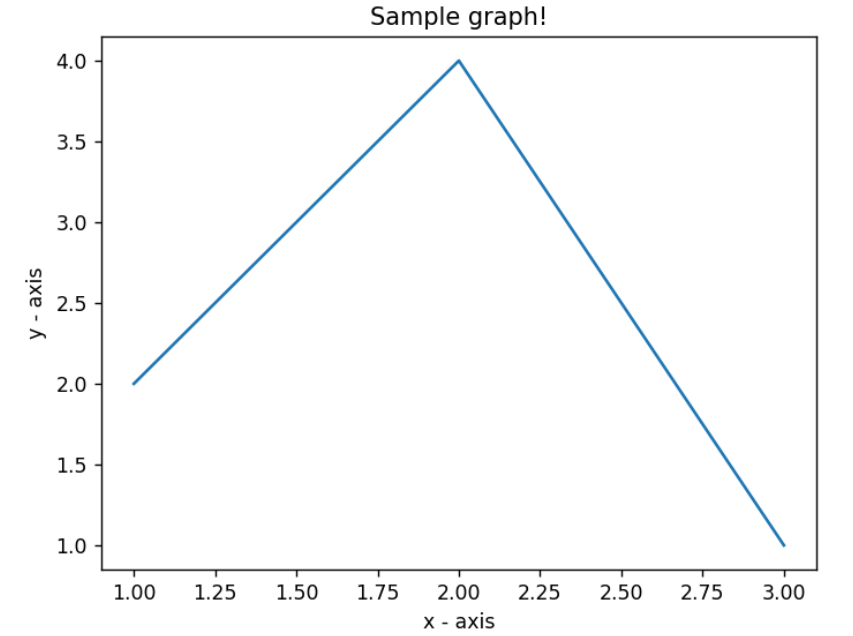
21. Write a Pandas program to swap the cases of a specified character column in a given DataFrame.

```
    Name           City
0   jOHN       New York
1  aLICE    Los Angeles
2    bOB        Chicago
3    eVE  San Francisco
```

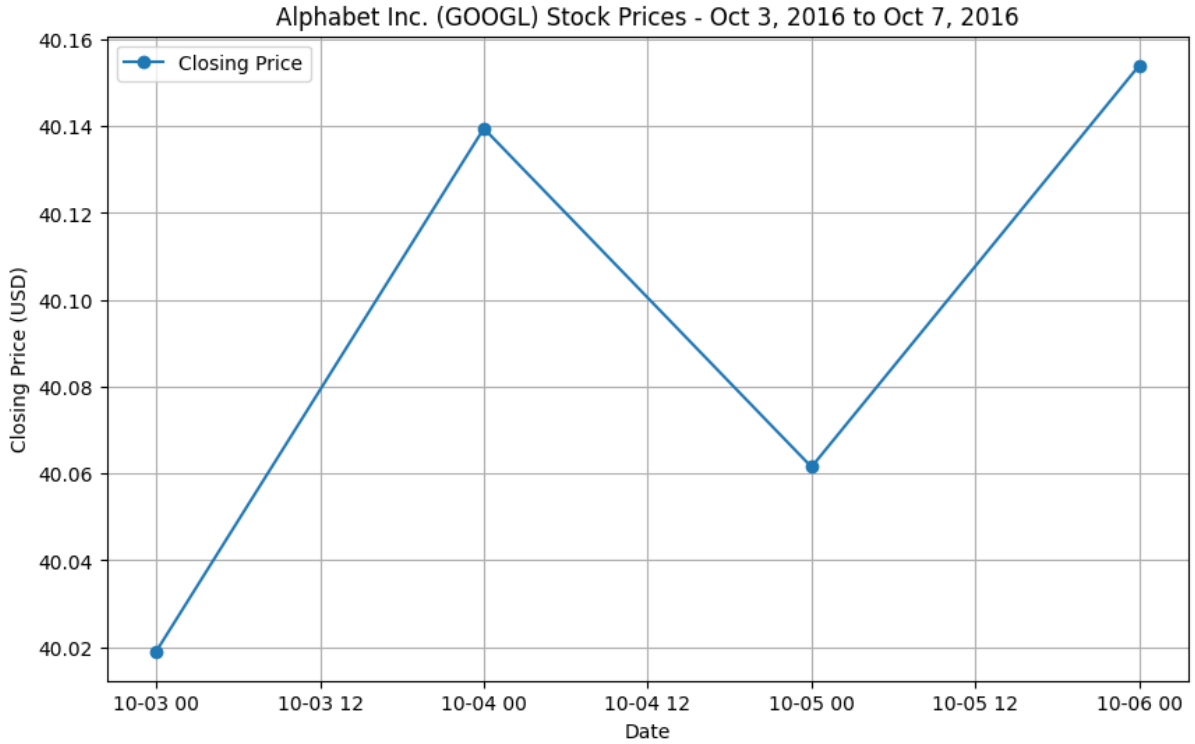
22. Write a Python program to draw a line with suitable label in the x axis, y axis and a title.



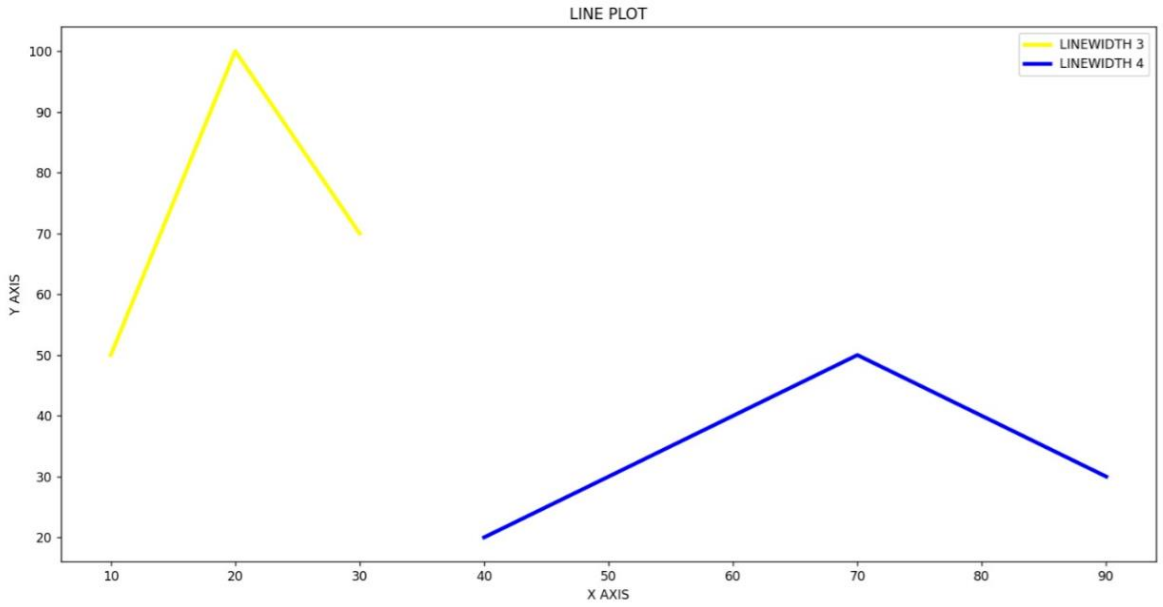
23.Write a Python program to draw a line using given axis values taken from a text file, with suitable label in the x axis, y axis and a title.



24. Write a Python program to draw line charts of the financial data of Alphabet Inc. between October 3, 2016 to October 7, 2016.

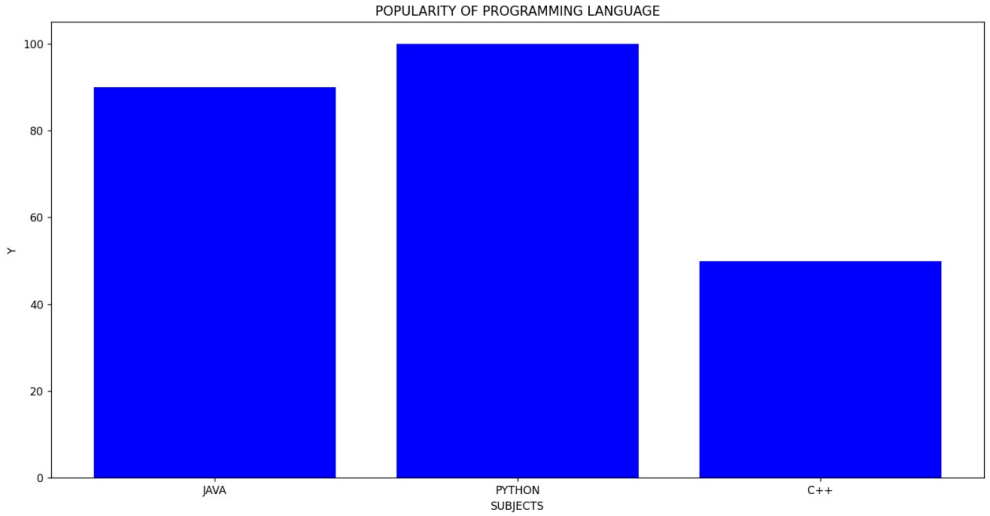


25. Write a Python program to plot two or more lines with legends, different widths and colours.

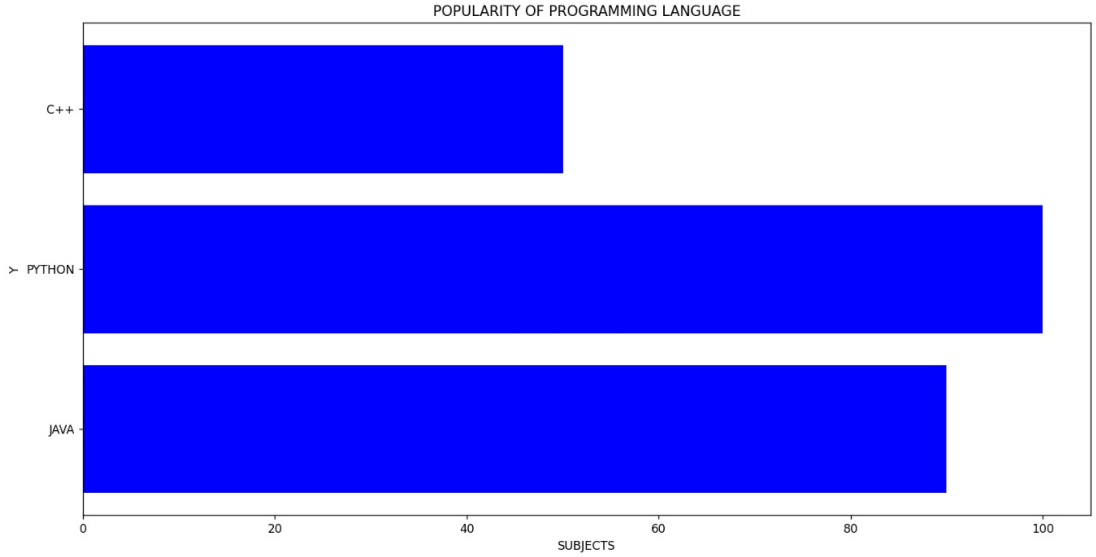


26. Write a Python program to create multiple plots.

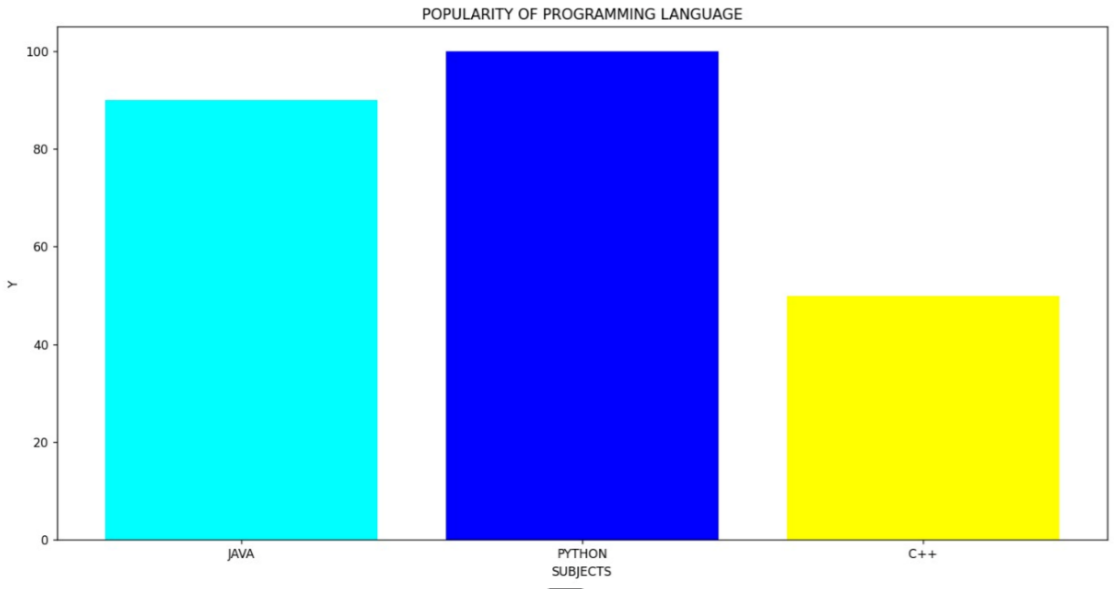
27.Write a Python programming to display a bar chart of the popularity of programming Languages.



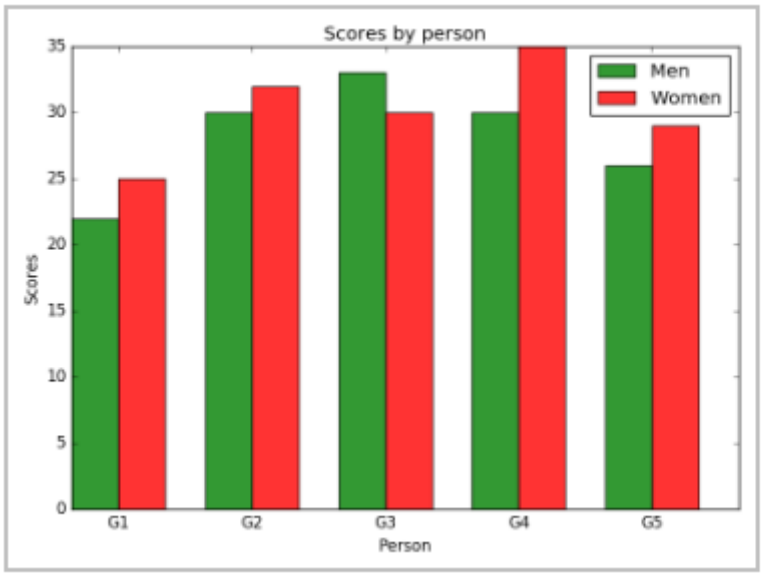
28. Write a Python programming to display a horizontal bar chart of the popularity of programming Languages.



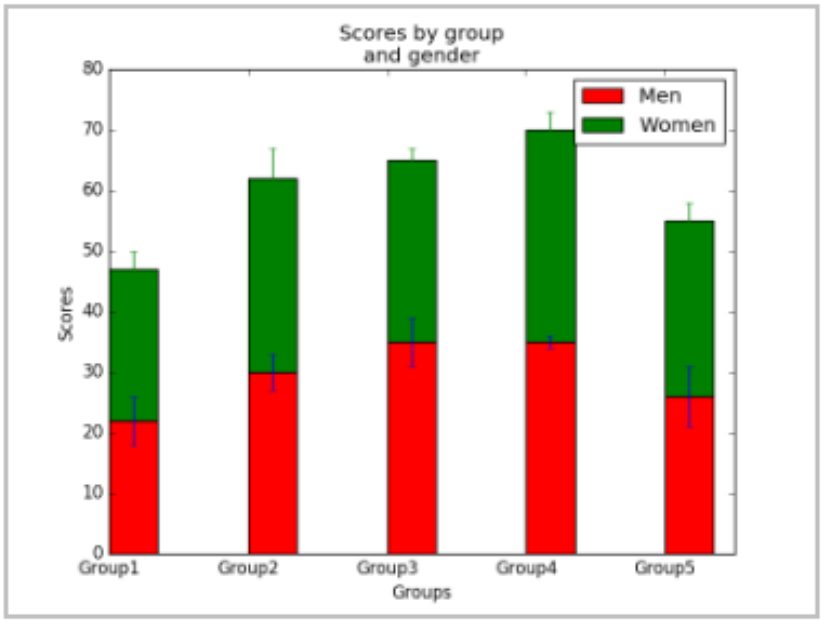
29. Write a Python programming to display a bar chart of the popularity of programming Languages. Use different color for each bar.



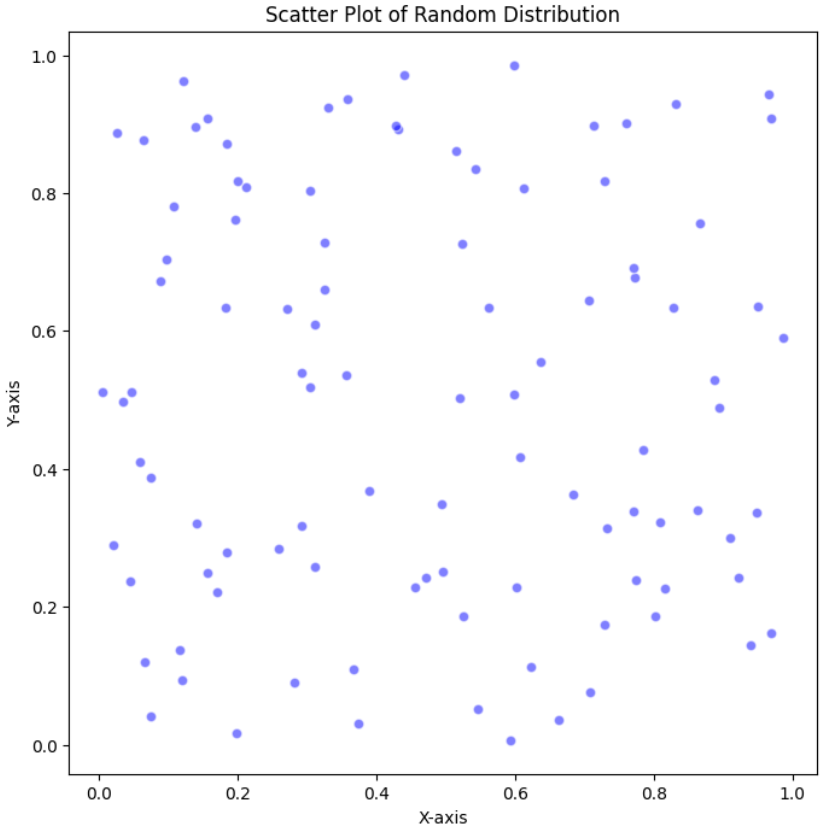
30. Write a Python program to create bar plot of scores by group and gender. Use multiple X values on the same chart for men and women.



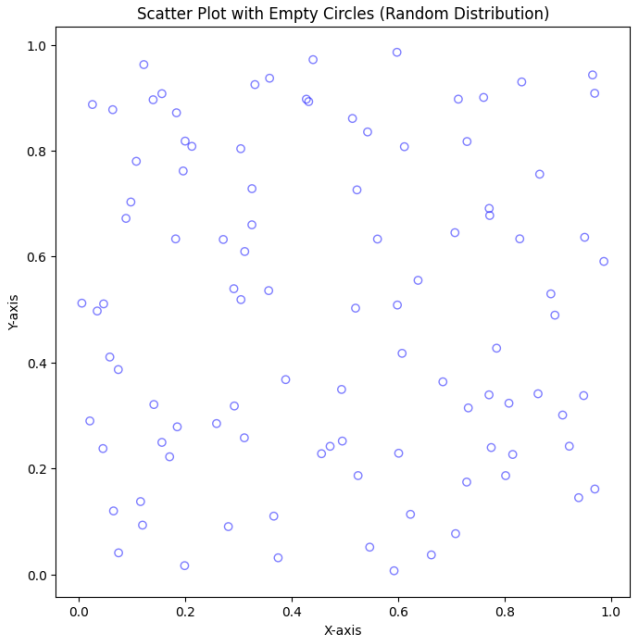
31. Write a Python program to create a stacked bar plot with error bars.



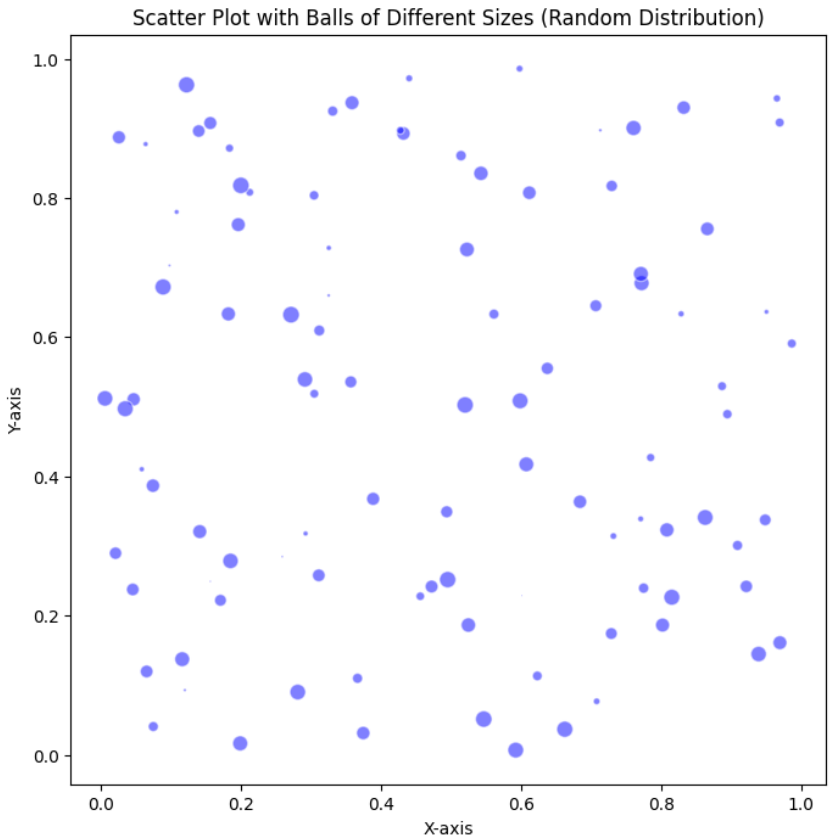
32. Write a Python program to draw a scatter graph taking a random distribution in X and Y and plotted against each other.



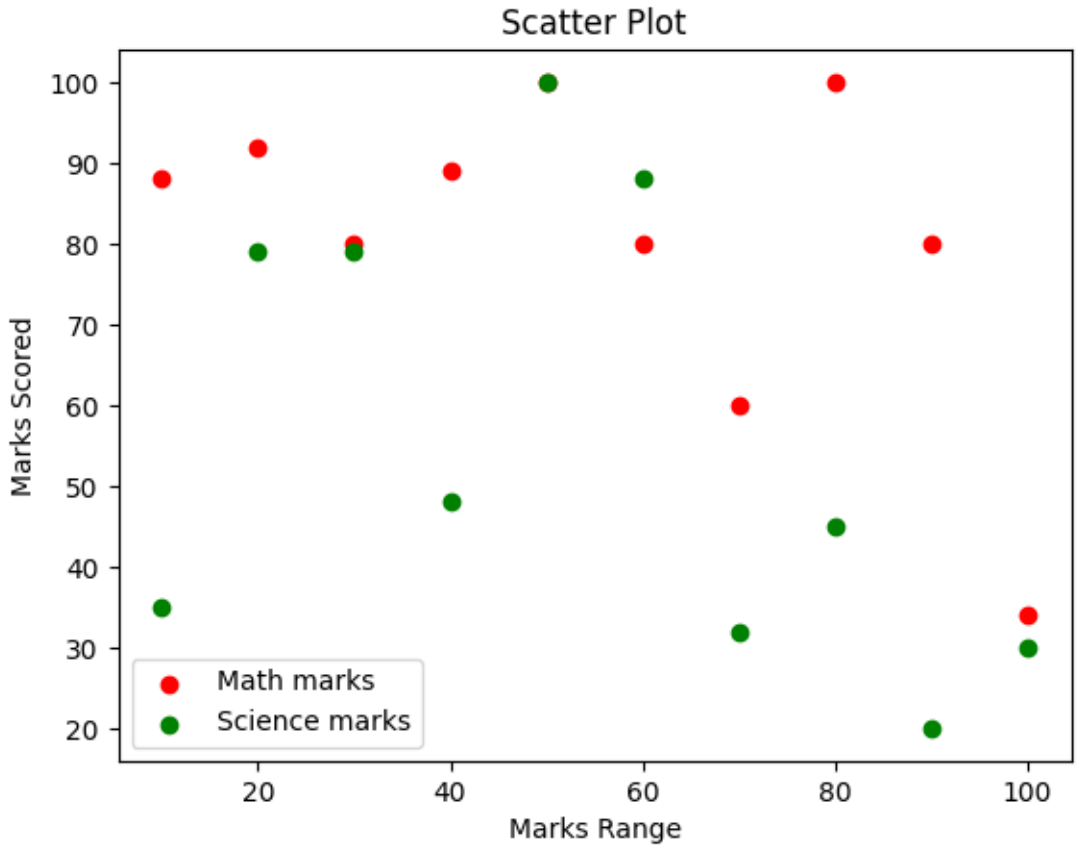
33. Write a Python program to draw a scatter plot with empty circles taking a random distribution in X and Y and plotted against each other.



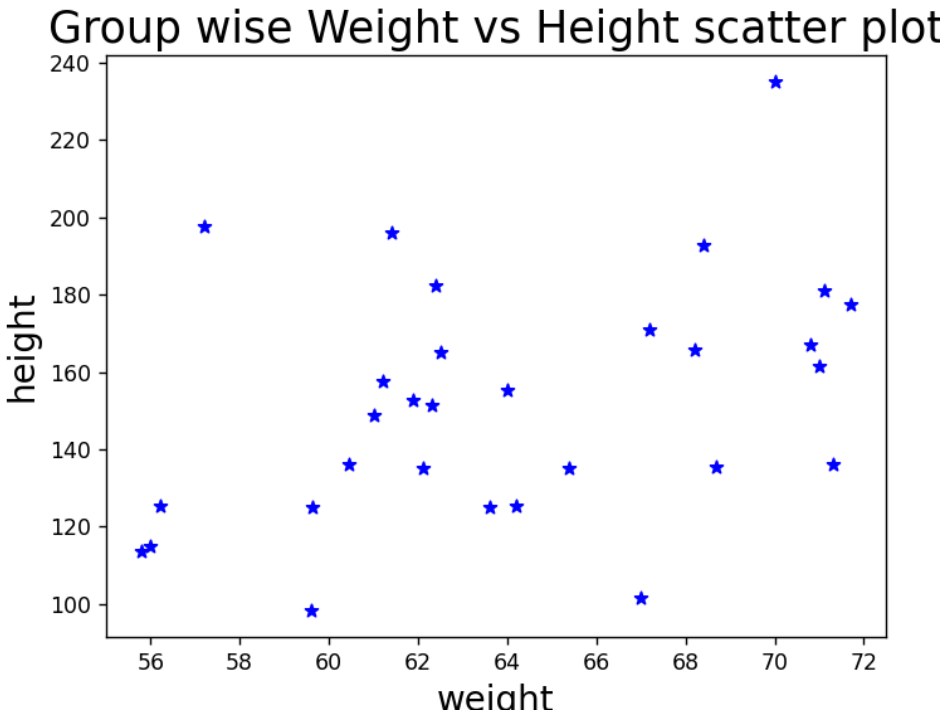
34. Write a Python program to draw a scatter plot using random distributions to generate balls of different sizes.



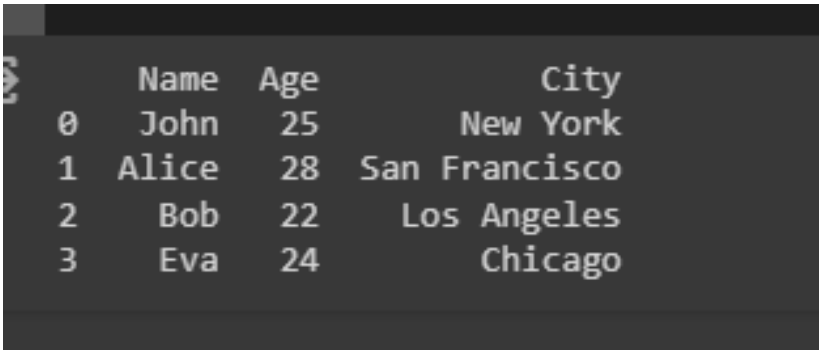
35. Write a Python program to draw a scatter plot comparing two subject marks of Mathematics and Science. Use marks of 10 students.



36.Write a Python program to draw a scatter plot for three different groups comparing weights and heights.

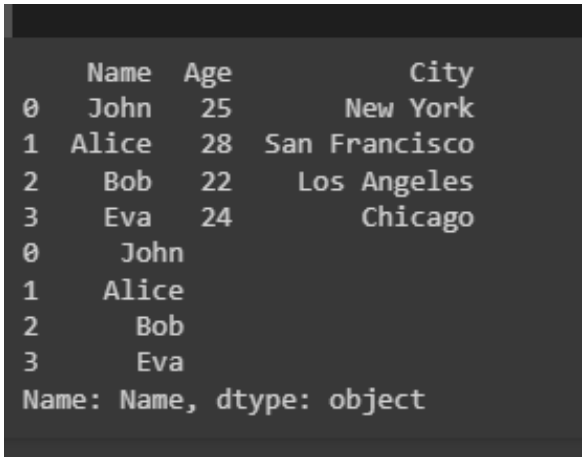


37.Write a Pandas program to create a dataframe from a dictionary and display it.



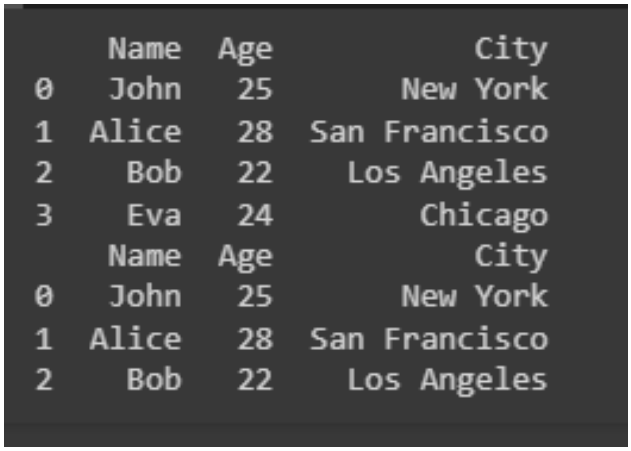
```
    Name  Age           City
0   John   25       New York
1  Alice   28  San Francisco
2    Bob   22    Los Angeles
3    Eva   24        Chicago
```

38. Write a Pandas program to create and display a DataFrame from a specified dictionary data which has the index labels.



```
    Name  Age           City
0   John   25       New York
1  Alice   28  San Francisco
2    Bob   22    Los Angeles
3    Eva   24        Chicago
0    John
1   Alice
2     Bob
3     Eva
Name: Name, dtype: object
```

39. Write a Pandas program to get the first 3 rows of a given DataFrame.



```
    Name  Age           City
0   John   25       New York
1  Alice   28  San Francisco
2    Bob   22    Los Angeles
3    Eva   24        Chicago
    Name  Age           City
0   John   25       New York
1  Alice   28  San Francisco
2    Bob   22    Los Angeles
```

40. Write a Pandas program to select the 'name' and 'score' columns from the following DataFrame.

```
    Name  Age           City
0   John   25       New York
1  Alice   28  San Francisco
2    Bob   22    Los Angeles
3    Eva   24        Chicago
0     John
1    Alice
2      Bob
3      Eva
Name: Name, dtype: object
0    25
1    28
2    22
3    24
Name: Age, dtype: int64
```