Program 1

P 4113.0

Q 4104.0

R 3114.0

S 2115.0

Program 2

dtype: float64

Attribute object s1 object s2

idnex(.index) : Index(['P', 'Q', 'R', 'S'], dtype='object') RangeIndex(start=0, stop=7, step=1)

index name(.index.name) None None

values(.values) [4570 4560 3460 2350] [ 321 432 532 1324 5343 123 421331]

data type(.dtype) : int64 int64

shape (.shape) : (4,) (7,)

No. of bytes (.nbytes) : 32 56

No. of dimensions (.ndim) : 1 1

Has NaNs? : False False

empty? (.empty) : False False

name (.name) None None

Program 4

Roshan 72

Roman 75

Raygan 98

Rafthar 101

Romeo 112

Rohit 123

Romith 125

Raghav 130

Rakul 132

Rakshita 135

Ruthu 137

Rahul 145

Ram 150

Rajath 155

Rakshit 160

Raj 161

Ramesh 162

Ramith 165

Rancho 168

Suresh 180

dtype: int64

Lowest sales: Roshan 72

Roman 75

dtype: int64

Higest sales: Rancho 168

Suresh 180

dtype: int64

program 5

Sort by:

1.Values

2.Index

Enter option:1

1 1

2 2

3 3

4 4

5 5

6 6

7 7

8 8

9 9

10 10

Enter option:2

10 10

9 9

8 8

7 7

6 6

5 5

4 4

3 3

2 2

1 1

PROGRAM 7

Roll No Percentage 1 Percentage 2 Percentage 3 Percentage 4 Percentage 5

0 1 80 71 70 87 85

1 2 94 75 82 97 92

2 3 82 81 75 71 95

3 4 94 85 95 98 83

4 5 77 81 93 74 85

5 6 96 85 97 80 88

Program 8

Basic Arithmetic Operations with

1.Same Index

2.Different Index

Enter your choice:1

Enter the number of elements in the 2 series: 2

0 6

1 95

dtype: int64

0 99

1 3

dtype: int64

Arithmetic Operations with same index

Addition:

0 105

1 98

dtype: int64

Subtraction:

0 -93

1 92

dtype: int64

Multiplication:

0 594

1 285

dtype: int64

Division:

0 0.060606

1 31.666667

dtype: float64

program 9

Name Age Department Monthly Salary Profession

0 Sana 26 HR 80000 Manager

1 Sana 26 HR 80000 Manager

2 Payal 32 IT 200000 Manager

3 Vidhya 26 HR 67000 Assistant

4 Manal 40 IT 500000 Team Leader

0 HR

1 HR

2 IT

3 HR

4 IT

Name: Department, dtype: object

Name Payal

Age 32

Department IT

Monthly Salary 200000

Profession Manager

Name: 2, dtype: object

Index:

RangeIndex(start=0, stop=5, step=1)

Columns:

Index(['Name', 'Age', 'Department', 'Monthly Salary', 'Profession'], dtype='object')

Axes:

[RangeIndex(start=0, stop=5, step=1), Index(['Name', 'Age', 'Department', 'Monthly Salary', 'Profession'], dtype='object')]

DataTypes:

Name object

Age int64

Department object

Monthly Salary int64

Profession object

dtype: object

Size:

25

Shape:

(5, 5)

Values:

[['Sana' 26 'HR' 80000 'Manager']

['Sana' 26 'HR' 80000 'Manager']

['Payal' 32 'IT' 200000 'Manager']

['Vidhya' 34 'HR' 67000 'Assistant']

['Manal' 40 'IT' 500000 'Team Leader']]

Empty?:

False

No.of Dimensions:

2

Transpose:

0 1 2 3 4

Name Sana Sana Payal Vidhya Manal

Age 26 26 32 34 40

Department HR HR IT HR IT

Monthly Salary 80000 80000 200000 67000 500000

Profession Manager Manager Manager Assistant Team Leader

Program 10

2018 2019 2020 2021

Mumbai 945940 823940 554897 218638

Delhi 673180 437083 607059 229489

Kolkata 969193 156397 484367 311496

Chennai 387695 623314 955598 973676

Average Population Per Year: 2018 744002.00

2019 510183.50

2020 650480.25

2021 433324.75

dtype: float64

First Two Rows: 2018 2019 2020 2021

Mumbai 945940 823940 554897 218638

Delhi 673180 437083 607059 229489

Last Two Rows: 2018 2019 2020 2021

Kolkata 969193 156397 484367 311496

Chennai 387695 623314 955598 973676

Program 11

Name No of matches played Average Score

True Anil Kubmle 271 50

False Shane Warne 194 33

True Sachin Tendulkar 664 120

False MS Dhoni 341 122

True Lasith Malinga 220 25

Name No of matches played Average Score

True Anil Kubmle 271 50

True Sachin Tendulkar 664 120

True Lasith Malinga 220 25

Name No of matches played Average Score

False Shane Warne 194 33

False MS Dhoni 341 122

Program 12

Country National Animals National Bird Currency

0 India Bengal Tiger Peakock Ruppee

1 USA Bald Eagle Bald Eagle Dollar

2 Russia Brown Bear Double Headed Eagle Rouble

3 China Giant Panda Red Crowned Crane Yuan

4 UK Unicorn Robin Sterling Pound

5 France Rooster Rooster Euro

6 Pakistan Markhor Chukar Pakistani Ruppee

7 Germany Eagle Eagle Euro

8 Italy Wolf Sparrow Euro

9 Malaysia Malayan Tiger Hornbill Ringgit

Acessing row using .loc:

Country National Animals National Bird Currency

0 India Bengal Tiger Peakock Ruppee

1 USA Bald Eagle Bald Eagle Dollar

2 Russia Brown Bear Double Headed Eagle Rouble

3 China Giant Panda Red Crowned Crane Yuan

4 UK Unicorn Robin Sterling Pound

5 France Rooster Rooster Euro

6 Pakistan Markhor Chukar Pakistani Ruppee

7 Germany Eagle Eagle Euro

8 Italy Wolf Sparrow Euro

9 Malaysia Malayan Tiger Hornbill Ringgit

Acessing column using .iloc:

Country National Animals National Bird Currency

0 India Bengal Tiger Peakock Ruppee

1 USA Bald Eagle Bald Eagle Dollar

2 Russia Brown Bear Double Headed Eagle Rouble

3 China Giant Panda Red Crowned Crane Yuan

4 UK Unicorn Robin Sterling Pound

5 France Rooster Rooster Euro

6 Pakistan Markhor Chukar Pakistani Ruppee

7 Germany Eagle Eagle Euro

8 Italy Wolf Sparrow Euro

9 Malaysia Malayan Tiger Hornbill Ringgit