

## 1. Assign your Name to variable name and Age to variable age. Make a Python program that prints your name and age

```
In [75]: name="Rishabh Tiwary"
age=21
print("My name is ",name,".And my age is ",age)
```

My name is Rishabh Tiwary .And my age is 21

## 2. X="Datascience is used to extract meaningful insights." Split the string

```
In [76]: X="Datascience is used to extract meaningful insights"
X.split()
```

```
Out[76]: ['Datascience', 'is', 'used', 'to', 'extract', 'meaningful', 'insights']
```

## 3. Make a function that gives multiplication of two numbers

```
In [77]: def multiplication(a,b):
c=a*b
print("Multiplication of",a,"and",b,"is",c)
multiplication(10,3)
```

Multiplication of 10 and 3 is 30

## 4. Create a Dictionary of 5 States with their capitals. also print the keys and values.

```
In [78]: Di={"Andra Pradesh":"Amaravathi","Telangana":"Hyderabad","Karnataka":"Bangalore","Tamil Nadu":"Chennai",
print(Di)
print("Keys:",Di.keys())
print("Values:",Di.values())
```

```
{'Andra Pradesh': 'Amaravathi', 'Telangana': 'Hyderabad', 'Karnataka': 'Bangalore', 'Tamil Nadu': 'Chennai', 'Goa': 'Panaji'}
Keys: dict_keys(['Andra Pradesh', 'Telangana', 'Karnataka', 'Tamil Nadu', 'Goa'])
Values: dict_values(['Amaravathi', 'Hyderabad', 'Bangalore', 'Chennai', 'Panaji'])
```

## 5. Create a list of 1000 numbers using range function.

```
In [79]: li=list(range(1000))
print(li)
```

```
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269,
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270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290  
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73, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393,  
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704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724  
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766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786  
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07, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827,  
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, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 8  
69, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889,  
890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910  
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952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972  
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```
93, 994, 995, 996, 997, 998, 999]
```

## 6. Create an identity matrix of dimension 4 by 4

```
In [80]: import numpy as np
mat=np.identity(4)
print("Identity Matrix:\n",mat)
```

```
Identity Matrix:
[[1. 0. 0. 0.]
 [0. 1. 0. 0.]
 [0. 0. 1. 0.]
 [0. 0. 0. 1.]]
```

## 7. Create a 3x3 matrix with values ranging from 1 to 9.

```
In [81]: import numpy as np
mat1=np.array(range(1,10)).reshape(3,3)
print(mat1)
```

```
[[1 2 3]
 [4 5 6]
 [7 8 9]]
```

```
In [82]: import pandas as pd
mat1 = pd.DataFrame([[1, 2, 3], [4, 5, 6], [7, 8, 9]])
print(mat1)
```

```
   0  1  2
0  1  2  3
1  4  5  6
2  7  8  9
```

## 8. Create 2 similar dimensional array and perform sum on them.

```
In [83]: import numpy as np
a=np.array([[1,2,3],[4,5,8],[3,3,3]])
print("1st array:\n",a)
b=np.array([[1,1,1],[2,2,2],[3,3,3]])
print("2nd array:\n",b)
c=a+b
print("Sum of a and b:\n",c)
```

```
1st array:
[[1 2 3]
 [4 5 8]
 [3 3 3]]
2nd array:
[[1 1 1]
 [2 2 2]
 [3 3 3]]
Sum of a and b:
[[ 2  3  4]
 [ 6  7 10]
 [ 6  6  6]]
```

```
In [84]: import pandas as pd
a = pd.DataFrame([[1,2,3],[4,5,8],[3,3,3]])
b = pd.DataFrame([[1,1,1],[2,2,2],[3,3,3]])
c = a.add(b)
print("Sum of a and b:\n",c)
```

Sum of a and b:

	0	1	2
0	2	3	4
1	6	7	10
2	6	6	6

## 9. Generate the series of dates from 1st Feb, 2023 to 1st March, 2023 (both inclusive)

```
In [85]: import pandas as pd
sdate = '2023-02-01'
edate = '2023-03-01'
dates = pd.date_range(sdate, edate)
print(dates)
```

```
DatetimeIndex(['2023-02-01', '2023-02-02', '2023-02-03', '2023-02-04',
                '2023-02-05', '2023-02-06', '2023-02-07', '2023-02-08',
                '2023-02-09', '2023-02-10', '2023-02-11', '2023-02-12',
                '2023-02-13', '2023-02-14', '2023-02-15', '2023-02-16',
                '2023-02-17', '2023-02-18', '2023-02-19', '2023-02-20',
                '2023-02-21', '2023-02-22', '2023-02-23', '2023-02-24',
                '2023-02-25', '2023-02-26', '2023-02-27', '2023-02-28',
                '2023-03-01'],
              dtype='datetime64[ns]', freq='D')
```

**10. Given a dictionary, convert it into corresponding dataframe and display it dictionary = {'Brand': ['Maruti', 'Renault', 'Hyndai'], 'Sales' : [250, 200, 240]}**

```
In [86]: import pandas as pd
dictionary={"Brand":["Maruti", "Renault", "Hyndai"], "Sales": [250, 200, 240]}
a=pd.DataFrame(dictionary)
print(a)
```

	Brand	Sales
0	Maruti	250
1	Renault	200
2	Hyndai	240