

SmartBridge Applied DataScience


Assignment - 1

Name: PEDAKOTA KEERTHANA

Reg. Num: 20BCD7245

1)

Assign your Name to variable name and age to variable age. Make a python program that prints your name and age.

```
✓ 0s  name="PEDAKOTA KEERTHANA"  
age="20"  
print(name,age)
```

PEDAKOTA KEERTHANA 20


2)

X="DataScience is used to extract meaningful insights." Split the string.

```
✓ 0s [2] X="DataScience is used to extract meaningful insights."  
print(X.split())  
  
['DataScience', 'is', 'used', 'to', 'extract', 'meaningful', 'insights.']
```

3)

Make a function that gives multiplication of two numbers

```
✓ 0s  def multiply(a,b):  
    return a*b;  
res=multiply(10,5)  
print(res)
```

 50

4)

Create a dictionary of 5 states with their capitals. also print the values and keys.

```
✓ 0s states={ "Rajasthan":"Jaipur",  
              "Tamil Nadu":"Chennai",  
              "Telangana":"Hyderabad",  
              "Madhya Pradesh":"Bhopal",  
              "Uttar Pradesh":"Lucknow"}  
  
print("States:")  
for state in states.keys():  
    print("\t",state)  
print("\nCapitals:")  
for capital in states.values():  
    print("\t",capital)
```

States:

Rajasthan
Tamil Nadu
Telangana
Madhya Pradesh
Uttar Pradesh

Capitals:

Jaipur
Chennai
Hyderabad
Bhopal
Lucknow

5)

Create list of 1000 numbers using range function

```
✓ 0s [5] nums=list(range(1,1001))  
      print(nums)
```

[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,

•
•
•
•
•
•

980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000]

6)

Create an identity matrix of dimension 4 by 4.

✓
0s



```
def identity_Matrix(size):  
    for row in range(0, size):  
        for col in range(0, size):  
            if (row == col):  
                print("1 ", end=" ")  
            else:  
                print("0 ", end=" ")  
        print()  
size = 4  
identity_Matrix(size)
```



```
1 0 0 0  
0 1 0 0  
0 0 1 0  
0 0 0 1
```

7)

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

```
✓ [7] def matrix(size):  
0s     val=1;  
     for row in range(0,size):  
         for col in range(0,size):  
             print(val, end=" ")  
             val+=1  
         print()  
     size=3  
     matrix(size)
```

```
☐→ 1 2 3  
     4 5 6  
     7 8 9
```

8)

Create 2 similar dimensional array and perform sum on them.

```
✓ [8] arr1=[[4,5,6],[7,8,9]]  
0s     arr2=[[3,8,7],[9,6,4]]  
     result = []  
     for i in range(len(arr1)):  
         row = []  
         for j in range(len(arr1[i])):  
             row.append(arr1[i][j] + arr2[i][j])  
         result.append(row)  
     for row in result:  
         print(row)
```

```
[7, 13, 13]  
[16, 14, 13]
```

9)

Generate the series of dates from 1st feb,2023 to 1st mar,2023.

```
✓ [9] start_day = 1
0s    start_month = 2
      start_year = 2023

      end_day = 2
      end_month = 3
      end_year = 2023

      current_day = start_day
      current_month = start_month
      current_year = start_year
```

```
while (current_day != end_day or current_month != end_month or current_year != end_year):
    print(f"{current_year}-{current_month:02d}-{current_day:02d}")

    current_day += 1

    if current_month in [1, 3, 5, 7, 8, 10, 12]:
        max_days = 31
    elif current_month in [4, 6, 9, 11]:
        max_days = 30
    else:
        if current_year % 4 == 0 and (current_year % 100 != 0 or current_year % 400 == 0):
            max_days = 29
        else:
            max_days = 28
```

2023-02-01	2023-02-11	2023-02-21
2023-02-02	2023-02-12	2023-02-22
2023-02-03	2023-02-13	2023-02-23
2023-02-04	2023-02-14	2023-02-24
2023-02-05	2023-02-15	2023-02-25
2023-02-06	2023-02-16	2023-02-26
2023-02-07	2023-02-17	2023-02-27
2023-02-08	2023-02-18	2023-02-28
2023-02-09	2023-02-19	2023-02-29
2023-02-10	2023-02-20	2023-03-01

10)

Given a dictionary, convert it into corresponding dataframe and display it

dictionary={'Brand':['Maruthi','Renault','Hyundai'],'Sales':[250,200,240]}

✓
0s



```
import pandas as pd
```

```
data = {'Brand': ['Maruthi', 'Renault', 'Hyundai'],  
        'Sales': [250, 200, 240]}
```

```
df = pd.DataFrame(data)  
print(df)
```



	Brand	Sales
0	Maruthi	250
1	Renault	200
2	Hyundai	240