Name: Yash Jain

Assignment 1

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

```python
#ques1
name="Yash"
age=21
print(name)
print(age)
```
```
Yash
21
```

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

```python
#ques2
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**

```python
#ques3
def multiply(a,b):
    c=a*b
    return c

print(multiply(9,8))
```
```
72
```

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

```python
#ques4
state_capital={
    "Uttar Pradesh":"Lucknow",
    "Karnatka":"Bengaluru",
    "Tamil Nadu":"Chennai",
    "Bihar":"Patna",
    "Maharashtra":"Mumbai"
}

for keys, value in state_capital.items():
    print(keys + ":" + value)
```
```
Uttar Pradesh:Lucknow
Karnatka:Bengaluru
Tamil Nadu:Chennai
Bihar:Patna
Maharashtra:Mumbai
```

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

```python
#ques5
a=1
b=1001

x=range(a,b)
for i in x:
    print(i)
```

[9] ✓ 0.0s   Python

```
...  1
     2
     3
     4
     5
     6
     7
     8
     9
     10
     11
     12
     13
     14
     15
     16
     17
```

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

```python
#ques6
import numpy as np
mat=np.identity(4)
print(mat)
```

[10] ✓ 0.1s   Python

```
...  [[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**

```python
#ques7
x=np.random.randint(1,9,(3,3))
print(x)
```

[11] ✓ 0.0s   Python

```
...  [[6 1 6]
     [3 2 7]
     [4 6 5]]
```

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

```python
#ques 8
a=range(2,10)
b=range(5,13)

arr1 = np.array(a)
arr2 = np.array(b)

print ("1st array : ", arr1)
print ("2nd array : ", arr2)

out_arr = np.add(arr1, arr2)
print ("added array : ", out_arr)
```
[13] ✓ 0.0s   Python

```
1st array :  [2 3 4 5 6 7 8 9]
2nd array :  [ 5  6  7  8  9 10 11 12]
added array :  [ 7  9 11 13 15 17 19 21]
```

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

```python
#ques 9
from datetime import date, timedelta

start_date = date(2023, 2, 1)
end_date = date(2023, 3, 1)

date_list = []

while start_date <= end_date:
    date_list.append(start_date)
    start_date += timedelta(days=1)

print(date_list)
```
[15] ✓ 0.0s   Python

```
[datetime.date(2023, 2, 1), datetime.date(2023, 2, 2), datetime.date(2023, 2, 3), datetime.date(2023, 2, 4), datetime.
```

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

```python
#ques 10
import pandas as pd
dictionary={'Brand':['Maruti','Renault','Hyundai'],'Sales':[250,200,240]}
new = pd.DataFrame.from_dict(dictionary)
new
```
[17] ✓ 0.5s   Python

	Brand	Sales
0	Maruti	250
1	Renault	200
2	Hyundai	240