Assignment 1

Smart bridge externship

Applied data science

Submitted by

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From vitap

20BCN7103

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

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In [2]:
```
name ="sohel"
age="18"
print("name:",name)
print("Age",age)
```

```
name: sohel
Age 18
```

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

In [3]:
```
X = "Datascience is used to extract meaningful insights."
words = X.split()

print(words)
```

```
['Datascience', 'is', 'used', 'to', 'extract', 'meaningful', 'insights.']
```

---

3. Make a function that gives multiplication of two numbers

In [4]:
```
def mulitply(a,b):
    return a*b
```

In [6]:
```
resul=mulitply(4,7)
print(resul)
```

```
28
```

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

In [8]:
```
states_capitals={
    "andhra":"amaravathi",
    "telangana":"hyd",
    "goa":"panaji",
    "tamilnadu":"chennai",
    "karnataka":"bangalore"
}
```

In [9]:
```
print("States:")
for state in states_capitals:
    print(state)
```

```
States:
andhra
telangana
goa
tamilnadu
karnataka
```

In [10]:
```
print("Capitals:")
for capital in states_capitals.values():
    print(capital)
```

```
Capitals:
amaravathi
hyd
panaji
chennai
bangalore
```

In [ ]:

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

```
In [11]: numbers=list(range(1,1001))
```

```
In [12]: print(numbers)

[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, 1
02, 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,
```

6. Create an identity matrix of dimension 4 by 4

```
998, 999, 1000]

In [13]: dim=4

         identitymatrix=[[1 if i==j else 0 for j in range(dim)] for i in range(dim)]

In [15]: print(identitymatrix)

         [[1, 0, 0, 0], [0, 1, 0, 0], [0, 0, 1, 0], [0, 0, 0, 1]]

In [ ]:
```

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

```
In [16]: import numpy as np

         values = np.arange(1, 10)
         matrix = values.reshape(3, 3)
```

```
In [17]: print(matrix)

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

```
In [ ]:
```

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

```
In [18]: import numpy as np
         array1 = np.array([[1, 2, 3], [4, 5, 6], [7, 8, 9]])
         array2 = np.array([[10, 20, 30], [40, 50, 60], [70, 80, 90]])
```

```
In [19]: result = array1 + array2
```

```
In [20]: print(result)

[[11 22 33]
 [44 55 66]
 [77 88 99]]
```

```
In [ ]:
```

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

In [26]:

```
from datetime import datetime, timedelta

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

dates = []
current_date = start_date

while current_date <= end_date:
    dates.append(current_date)
    current_date += timedelta(days=1)

for date in dates:
    print(date)
```

```
2023-02-01 00:00:00
2023-02-02 00:00:00
2023-02-03 00:00:00
2023-02-04 00:00:00
2023-02-05 00:00:00
2023-02-06 00:00:00
2023-02-07 00:00:00
2023-02-08 00:00:00
2023-02-09 00:00:00
2023-02-10 00:00:00
2023-02-11 00:00:00
2023-02-12 00:00:00
2023-02-13 00:00:00
2023-02-14 00:00:00
2023-02-15 00:00:00
2023-02-16 00:00:00
2023-02-17 00:00:00
2023-02-18 00:00:00
2023-02-19 00:00:00
2023-02-20 00:00:00
2023-02-21 00:00:00
2023-02-22 00:00:00
2023-02-23 00:00:00
2023-02-24 00:00:00
2023-02-25 00:00:00
2023-02-26 00:00:00
2023-02-27 00:00:00
2023-02-28 00:00:00
2023-03-01 00:00:00
```

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

In [27]:
```
import pandas as pd

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

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

```
     Brand  Sales
0   Maruti    250
1  Renault    200
2  Hyundai    240
```

In [ ]: