Assignment-1

Python programming

Assignment Date	08 September 2022
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Maximum Mark	2 Marks

Basic Python

1. Split this string

In [ ]:
```
s = "Hi there Sam!"
```

In [1]:
```
s = "Hi there Sam!"
x = s.split()
print(x)
```

```
['Hi', 'there', 'Sam!']
```

2. Use .format() to print the following string.

Output should be: The diameter of Earth is 12742 kilometers.

In [3]:
```
planet = "Earth"
diameter = 12742
```

In [2]:
```
planet = "Earth"
diameter = 12742
print('the diameter of earth is 12742 kilometers.' .format(planet,diameter));
```

```
the diameter of earth is 12742 kilometers.
```

3. In this nest dictionary grab the word "hello"

In [ ]:
```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

In [4]:
```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
print(d['k1'][3]["tricky"][3]['target'][3])
```

```
hello
```

Numpy

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

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

In [11]:
```
import numpy as np
array=np.zeros(10)
print("An array of 10 zeros")
print(array)
```

```
An array of 10 zeros
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

```
print(array)
```

```
An array of 10 zeros
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

In [12]:
```
import numpy as np
array=np.ones(10)*5
print("An array of 10 fives")
print(array)
```

```
An array of 10 fives
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

5. Create an array of all the even integers from 20 to 35

In [13]:
```
import numpy as np
array=np.arange(20,36,2)
print(array)
```

```
[20 22 24 26 28 30 32 34]
```

6. Create a 3x3 matrix with values ranging from 0 to 8

In [14]:
```
import numpy as np
s=np.arange(0,9).reshape(3,3)
print(s)
```

```
[[0 1 2]
 [3 4 5]
 [6 7 8]]
```

7. Concatinate a and b

a = np.array([1, 2, 3]), b = np.array([4, 5, 6])

In [17]:
```
import numpy as np
a=np.array([1,2,3])
b = np.array([4, 5, 6])
con=np.concatenate((a,b))
print(con)
```

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

Pandas

8. Create a dataframe with 3 rows and 2 columns

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

In [2]:
```
import pandas as pd
data=[['suba','blue'],['vaishu','pink'],['siva','green']]
df=pd.DataFrame(data,columns=['name','color'])
df
```

Out[2]:

	name	color
0	suba	blue
1	vaishu	pink

8. Create a dataframe with 3 rows and 2 columns

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

In [2]:
```
import pandas as pd
data=[['suba','blue'],['vaishu','pink'],['siva','green']]
df=pd.DataFrame(data,columns=['name','color'])
df
```

Out[2]:

	name	color
0	suba	blue
1	vaishu	pink
2	siva	green

9. Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023

In [3]:
```
import pandas as pd
a=pd.date_range(start='1-1-2023',end='10-2-2023',freq='2000H')
print(a)
```

```
DatetimeIndex(['2023-01-01 00:00:00', '2023-03-25 08:00:00',
               '2023-06-16 16:00:00', '2023-09-08 00:00:00'],
              dtype='datetime64[ns]', freq='2000H')
```

10. Create 2D list to DataFrame

lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]

In [1]:
```
import pandas as pd
lists = [[1, 'aaa', 22],
         [2, 'bbb', 25],
         [3, 'ccc', 24]]
data=(lists)
df=pd.DataFrame(lists)
print(df)
```

```
   0    1   2
0  1  aaa  22
1  2  bbb  25
2  3  ccc  24
```