Assignment -1

Python Programming

Assignment Date	13 September 2022
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Project	AI BASED DISCOURSEFOR BANKING INDUSTRY
Maximum Marks	2 Marks

Question-1:

Split this string

S = “Hi there Sam!”

Solution:

S="Hi there Sam!"

s=s.split()

print(s);

```
s="Hi there Sam!"
s=s.split()
print(s);
```

[8] Python

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

Question-2:

Use .format() to print the following string.

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

planet = "Earth"

diameter 12742

Solution:

planet="Earth"

diameter=12742

print("The diameter of {} is {} killometers.".format(planet,diameter));

```
planet="Earth"
diameter=12742
print("The diameter of {} is {} killometers.".format(planet,diameter));
```

[9] Python

```
The diameter of Earth is 12742 killometers.
```

Question-3:

In this nest dictionary grab the word "hello"

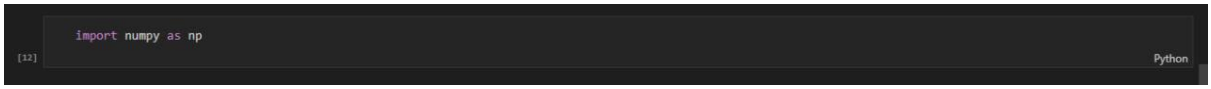
Solution:

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

d['k'][3]['tricky'][3]['target'][3]

Question-4:

Numpy

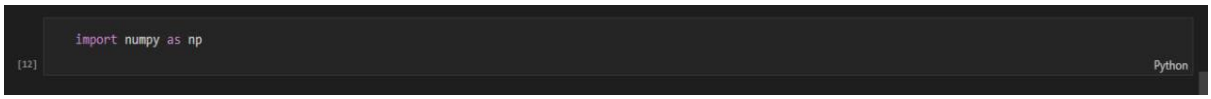


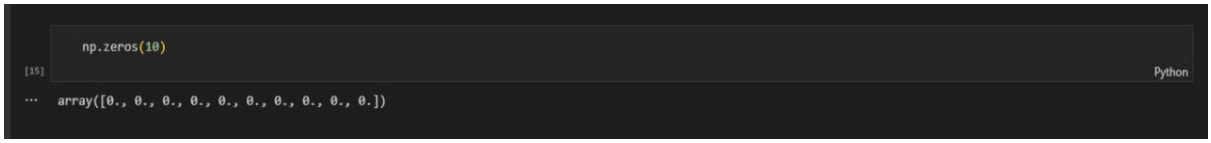
4.1 Create an array of 10 zeros?

Solution:

import numpy as np

np.zeros(10)



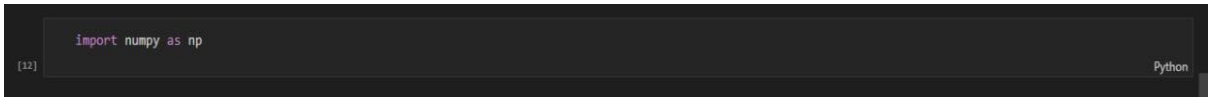


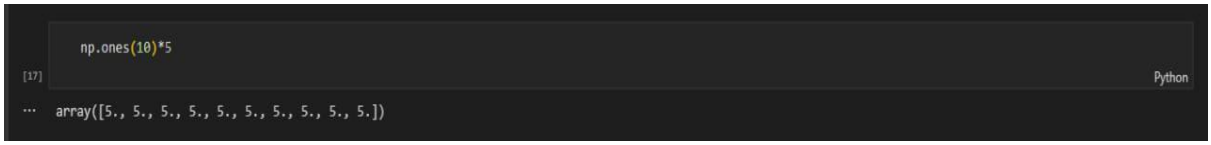
4.2 Create an array of 10 fives?

Solution:

import numpy as np

np.ones(10)*5





Question-5:

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

Solution:

import numpy as np

np.arange(20,35,2)

```
[12]  import numpy as np
                                                                    Python
```

```
[22]  np.arange(20,35,2)
                                                                    Python
...   array([20, 22, 24, 26, 28, 30, 32, 34])
```

Question-6:

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

Solution:

import numpy as np

np.arange(9).reshape(3,3)

```
[12]  import numpy as np
                                                                    Python
```

```
[27]  np.arange(9).reshape(3,3)
                                                                    Python
...   array([[0, 1, 2],
             [3, 4, 5],
             [6, 7, 8]])
```

Question-7:

Concatenate a and b

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

Solution:

Import numpy as np

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

np.concatenate([a,b])

```
[12]  import numpy as np
                                                                    Python
```

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

Pandas

```
[36]  import pandas as pd
                                                                    Python
```

Question-8:

Create a dataframe with 3 rows and 2 columns

Solution:

import pandas as pd

data = [{'a': 1, 'b': 2, 'c': 3},

{'a': 10, 'b': 20, 'c': 30}]

df = pd.DataFrame(data)

print(df)

```
[36]  import pandas as pd
                                                                    Python
```

```
[51]  data = [{'a': 1, 'b': 2, 'c': 3},
              {'a': 10, 'b': 20, 'c': 30}]
      df = pd.DataFrame(data)
      print(df)
                                                                    Python

...      a   b   c
      0  1   2   3
      1  10  20  30
```

Question-9:

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

Solution:

import pandas as pd

dRan1 pd.date_range (start='1-1-2023',

end 10-02-2023', freq = 'd')

print(dRan1)

```
[36]  import pandas as pd
                                                                    Python
```

```
      dRan1 = pd.date_range(start ='1-1-2023',
                            end ='10-02-2023', freq ='d')
      print(dRan1)
[48]                                                                Python

...  DatetimeIndex(['2023-01-01', '2023-01-02', '2023-01-03', '2023-01-04',
                    '2023-01-05', '2023-01-06', '2023-01-07', '2023-01-08',
                    '2023-01-09', '2023-01-10',
                    ...
                    '2023-09-23', '2023-09-24', '2023-09-25', '2023-09-26',
                    '2023-09-27', '2023-09-28', '2023-09-29', '2023-09-30',
                    '2023-10-01', '2023-10-02'],
                   dtype='datetime64[ns]', length=275, freq='D')
```

Question-10:

Create 2D list to DataFrame

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

Solution:

import pandas as pd

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

pd.DataFrame(lists, columns =['A', 'B', 'C'])

print(df)

```
[36]  import pandas as pd
                                                                    Python
```

```
[58]  lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
      df = pd.DataFrame(lists, columns =['A','B','C'])
      print(df)
                                                                    Python
...     A    B   C
    0   1  aaa  22
    1   2  bbb  25
    2   3  ccc  24
```