Assignment -1

Python Programming

Assignment Date	08 September 2022
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Maximum Marks	2 Marks

Basic Python

1. Split this string

In [27]:
```
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 [22]:
```
planet = "Earth"
diameter = 12742
'The diameter of {} is {} kilometers.'.format(planet,diameter)
```

Out[22]:
```
'The diameter of Earth is 12742 kilometers.'
```

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

In [32]:
```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
d['k1'][3]['tricky'][3]['target'][3]
```

Out[32]:
```
'hello'
```

Numpy

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

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

In [4]:
```
import numpy as np
np_array=np.zeros(10)
np_array
```

Out[4]:
```
array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])
```

In [8]:
```
import numpy as np
np_array=np.ones(10)*5
np_array
```

Out[8]:
```
array([5., 5., 5., 5., 5., 5., 5., 5., 5., 5.])
```

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

In [33]:
```
import numpy as np
array=np.arange(20,35,2)
print("Array of all the even integers from 20 to 35")
print(array)
```

```
Array of all the even integers from 20 to 35
[20 22 24 26 28 30 32 34]
```

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

In [16]:
```
import numpy as np
a=np.arange(9)
a
np.arange(9).reshape(3,3)
```

Out[16]:
```
array([[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 [20]:
```
import numpy as np
a = np.array([1, 2, 3])
b = np.array([4, 5, 6])
arr=np.concatenate((a,b))
print(arr)
```

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

Pandas

8. Create a dataframe with 3 rows and 2 columns

In [6]:
```
import pandas as pd
data = [['Maths', '95%'], ['science','99%'], ['History','100%']]
df = pd.DataFrame(data, columns=['subjects', 'marks'])
df
```

Out[6]:

	subjects	marks
0	Maths	95%
1	science	99%
2	History	100%

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

In [43]:
```
import pandas as pd
pd.date_range("01-01-2023","10-02-2023")
```

Out[43]:
```
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')
```

10. Create 2D list to DataFrame

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

In [38]:
```
import pandas as pd
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc',24]]
data=pd.DataFrame(lists)
data
```

Out[38]:

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