Assignment_1

November 17, 2022

1 Basic Python

Assignment Date	10 September 2022
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Student Roll Number	2019504026
Maximum Marks	2 Marks

1.1 1. Split this string

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

```
[3]: s.split()
```

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

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

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

```
[4]: planet = "Earth" diameter =
     12742
```

```
[5]: "The diameter of {} is {} kilometers.".format(planet,diameter)
```

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

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

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

```
[8]: d['k1'][-1]['tricky'][-1]['target'][-1]
```

```
[8]: 'hello'
```

2 Numpy

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

2.1   4.1 Create an array of 10 zeros?
2.2   4.2 Create an array of 10 fives?

```
[11]:   np.zeros(10)
```

[11]: array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])

```
[12]:   5*np.ones(10)
```

[12]: array([5., 5., 5., 5., 5., 5., 5., 5., 5., 5.])

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

```
[13]:   np.arange(20, 35, 2)
```

[13]: array([20, 22, 24, 26, 28, 30, 32, 34])

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

```
[15]:   np.arange(0, 9).reshape((3,3))
```

[15]: array([[0, 1, 2],
             [3, 4, 5],
             [6, 7, 8]])

2.5   7. Concatinate a and b
2.6   a = np.array([1, 2, 3]), b = np.array([4, 5, 6])

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

[19]: array([1, 2, 3, 4, 5, 6])

3 Pandas

3.1   8. Create a dataframe with 3 rows and 2 columns

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

```
[22]:    pd.DataFrame(np.zeros((3,2)))
```

```
[22]:         0     1
         0   0.0   0.0
         1   0.0   0.0
         2   0.0   0.0
```

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

```
[23]:    pd.date_range('1/1/23','10/2/23')
```

```
[23]: 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')
```

3.3   10. Create 2D list to DataFrame

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

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

```
[27]:    pd.DataFrame(lists)
```

```
[27]:         0     1    2
         0   1    aaa   22
         1   2    bbb   25
         2   3    ccc   24
```