

Assignment 1
Data Science
Project title: Car Resale Price Prediction

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Basic Python

1. Split this string

```
s = "Hi there Sam!"  
print(s.split())  
['Hi', 'there', 'Sam!']  
italicized text###
```

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

```
Output should be: The diameter of Earth is 12742 kilometers.  
planet = "Earth"  
diameter = 12742  
print("The diameter of",planet,"is",diameter,"kilometers.")  
The diameter of Earth is 12742 kilometers.
```

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

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

Numpy

```
import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
np.zeros(10)  
array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])  
np.ones(10)*5  
array([5., 5., 5., 5., 5., 5., 5., 5., 5., 5.])
```

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

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

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

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

7. Concatenate a and b

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

```
a = np.array([1, 2, 3])
```

```
b = np.array([4, 5, 6])
```

```
np.concatenate((a,b))
```

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

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
import pandas as pd
```

```
import numpy as np
```

```
a=np.random.randint(10,size=(3,2))
```

```
print(a)
```

```
[[8 5]
```

```
 [7 4]
```

```
 [7 1]]
```

```
df=pd.DataFrame(a)
```

```
print(df)
```

```
   0  1
```

```
0  8  5
```

```
1  7  4
```

```
2  7  1
```

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

```
import datetime
```

```
import pandas as pd
```

```
start = datetime.datetime.strptime("01-01-2023", "%d-%m-%Y")
```

```
date_generated = pd.date_range(start, periods=41)
```

```
print(date_generated.strftime("%d-%m-%Y"))
```

```
Index(['01-01-2023', '02-01-2023', '03-01-2023', '04-01-2023', '05-01-2023',
```

```
      '06-01-2023', '07-01-2023', '08-01-2023', '09-01-2023', '10-01-2023',
```

```
      '11-01-2023', '12-01-2023', '13-01-2023', '14-01-2023', '15-01-2023',
```

```
      '16-01-2023', '17-01-2023', '18-01-2023', '19-01-2023', '20-01-2023',
```

```
      '21-01-2023', '22-01-2023', '23-01-2023', '24-01-2023', '25-01-2023',
```

```
      '26-01-2023', '27-01-2023', '28-01-2023', '29-01-2023', '30-01-2023',
```

```
      '31-01-2023', '01-02-2023', '02-02-2023', '03-02-2023', '04-02-2023',
```

```
      '05-02-2023', '06-02-2023', '07-02-2023', '08-02-2023', '09-02-2023',
```

```
      '10-02-2023'],
```

```
      dtype='object')
```

10. Create 2D list to DataFrame

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

```
df=pd.DataFrame(lists)
```

```
print(df)
```

```
   0  1  2
```

```
0  1  aaa 22
```

1 2 bbb 25
2 3 ccc 24