

Python Overview Exercise 1

1. Open a new Colab notebook.
2. Create a list called `algorithm` containing the following elements: Linear Regression, Logistic Regression, RandomForest, and a3c.

(Please Note that All Bold letters are codes)

```
algorithm = ['Linear Regression', 'Logistic Regression', 'RandomForest', 'a3c']
```

3. Create a list called `learning` containing the following elements: Supervised, Supervised, Supervised, and Reinforcement.

```
learning = ['Supervised', 'Supervised', 'Supervised', 'Reinforcement']
```

4. Create a list called `algorithm_type` containing the following elements: Regression, Classification, Regression or Classification, and Game AI.

```
algorithm_type = ['Regression', 'Classification', 'Regression or Classification', 'Game AI']
```

5. Add an item called k-means to the `algorithm` list using the `.append()` method.

```
algorithm.append('k-means')
```

6. Display the content of `algorithm` using the `print()` function.

```
print(algorithm)
```

7. Add the Unsupervised item to the `learning` list using the `.append()` method.

```
learning.append('Unsupervised')
```

8. Display the content of `learning` using the `print()` function.

```
print(learning)
```

9. Add the Clustering item to the `algorithm_type` list using the `.append()` method.

```
algorithm_type.append('Clustering')
```

10. Display the content of `algorithm_type` using the `print()` function.

```
print(algorithm_type)
```

11. Create an empty dictionary called `machine_learning` using curly brackets, `{}`.

```
machine_learning = {}
```

12. Create a new item in `machine_learning` with the key as `algorithm` and the value as all the items from the `algorithm` list.

```
machine_learning['algorithm'] = algorithm
```

13. Display the content of **machine_learning** using the **print()** function.

```
print(machine_learning)
```

14. Create a new item in **machine_learning** with the key as **learning** and the value as all the items from the **learning** list.

```
machine_learning['learning'] = learning
```

15. Create a new item in **machine_learning** with the key as **algorithm_type** and the value as all the items from the **algorithm_type** list.

```
machine_learning['algorithm_type'] = algorithm_type
```

16. Display the content of **machine_learning** using the **print()** function.

```
print(machine_learning)
```

17. Create a new item in **machine_learning** with the key as **algorithm_type** and the value as all the items from the **algorithm_type** list:

```
machine_learning['algorithm_type'] = algorithm_type
```

18. Display the content of **machine_learning** using the **print()** function.

From the preceding output, we can see that we have successfully created a dictionary containing the machine learning algorithms that we will come across in this book.

1. Remove the **a3c** item from the **algorithm** key using the **.remove()** method:

```
machine_learning['algorithm'].remove('a3c')
```

2. Display the content of the **algorithm** item from the **machine_learning** dictionary using the **print()** function:

```
print(machine_learning['algorithm'])
```

3. Remove the **Reinforcement** item from the **learning** key using the **.remove()** method:

```
machine_learning['learning'].remove('Reinforcement')
```

4. Remove the **Game AI** item from the **algorithm_type** key using the **.remove()** method:

```
machine_learning['algorithm_type'].remove('Game AI')
```

5. Display the content of **machine_learning** using the **print()** function:

```
print(machine_learning)
```