

**Import some libraries. Right now, we're going to learn about Factor Analysis from scikit-learn. So, we import sklearn, and from sklearn import datasets, from sklearn.decomposition import FactorAnalysis**

```
In [1]: import numpy as np
import pandas as pd

import sklearn
from sklearn import datasets
from sklearn.decomposition import FactorAnalysis
```

**We're about to load Iris Datasets**

```
In [8]: iris = datasets.load_iris()
x = iris.data
variable_names = iris.feature_names
```

```
In [10]: x[0:5]
```

```
Out[10]: array([[5.1, 3.5, 1.4, 0.2],
                [4.9, 3. , 1.4, 0.2],
                [4.7, 3.2, 1.3, 0.2],
                [4.6, 3.1, 1.5, 0.2],
                [5. , 3.6, 1.4, 0.2]])
```

```
In [11]: variable_names
```

```
Out[11]: ['sepal length (cm)',
          'sepal width (cm)',
          'petal length (cm)',
          'petal width (cm)']
```

**We're about to count the Factor Analysis. To do so, we need FactorAnalysis() function fitting to the variable first. Then, we create DataFrame which parameters is factor**

```
In [13]: factor = FactorAnalysis().fit(x)
pd.DataFrame(factor.components_, columns = variable_names)
```

Out[13]:

	sepal length (cm)	sepal width (cm)	petal length (cm)	petal width (cm)
0	0.706989	-0.158005	1.654236	0.70085
1	0.115161	0.159635	-0.044321	-0.01403
2	-0.000000	0.000000	0.000000	0.00000
3	-0.000000	0.000000	0.000000	-0.00000