

```

1 import pandas as pd
2 data={"fruit":["apple","banana","grapes","cherry"],"Vehicle":["van","car","bus","bike"]}
3 df=pd.DataFrame(data)
4 df.head()


```

	fruit	Vehicle
0	apple	van
1	banana	car
2	grapes	bus
3	cherry	bike

```

1 df_encoded=pd.get_dummies(df['fruit'])
2 df_encoded.head()

```



	apple	banana	cherry	grapes
0	1	0	0	0
1	0	1	0	0
2	0	0	0	1
3	0	0	1	0

```

1 df_encoded=pd.get_dummies(df['Vehicle'])
2 df_encoded.head()

```

	bike	bus	car	van
0	0	0	0	1
1	0	0	1	0
2	0	1	0	0
3	1	0	0	0

```

1 import pandas as pd
2 from sklearn import linear_model
3 from sklearn.preprocessing import StandardScaler
4 scale=StandardScaler()
5 df=pd.read_csv("/content/sample_data/w3schools.csv")
6 df

```

	Car	Model	Volume	Weight	CO2
0	Toyota	Aygo	1.0	790	99
1	Mitsubishi	Space Star	1.2	1160	95
2	Skoda	Citigo	1.0	929	95
3	Fiat	500	0.9	865	90
4	Mini	Cooper	1.5	1140	105
5	VW	Up!	1.0	929	105
6	Skoda	Fabia	1.4	1109	90
7	Mercedes	A-Class	1.5	1365	92
8	Ford	Fiesta	1.5	1112	98
9	Audi	A1	1.6	1150	99
10	Hyundai	I20	1.1	980	99
11	Suzuki	Swift	1.3	990	101
12	Ford	Fiesta	1.0	1112	99
13	Honda	Civic	1.6	1252	94
14	Hundai	I30	1.6	1326	97
15	Opel	Astra	1.6	1330	97
16	BMW	1	1.6	1365	99
17	Mazda	3	2.2	1280	104
18	Skoda	Rapid	1.6	1119	104
19	Ford	Focus	2.0	1328	105
20	Ford	Mondeo	1.6	1584	94

```

1 X=df[['Weight','Volume']]
2 scaledX=scale.fit_transform(X)
3 print(scaledX)

```

```

[[-2.10389253 -1.59336644]
 [-0.55407235 -1.07190106]
 [-1.52166278 -1.59336644]
 [-1.78973979 -1.85409913]
 [-0.63784641 -0.28970299]
 [-1.52166278 -1.59336644]
 [-0.76769621 -0.55043568]
 [ 0.3046118 -0.28970299]
 [-0.7551301 -0.28970299]
 [-0.59595938 -0.0289703 ]
 [-1.30803892 -1.33263375]
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 [-0.7551301 -1.59336644]
 [-0.16871166 -0.0289703 ]
 [ 0.14125238 -0.0289703 ]
 [ 0.15800719 -0.0289703 ]
 [ 0.3046118 -0.0289703 ]
 [-0.05142797  1.53542584]
 [-0.72580918 -0.0289703 ]
 [ 0.14962979  1.01396046]
 [ 1.2219378 -0.0289703 ]
 [ 0.5685001  1.01396046]
 [ 0.3046118  1.27469315]
 [ 0.51404696 -0.0289703 ]
 [ 0.51404696  1.01396046]
 [ 0.72348212 -0.28970299]
 [ 0.8281997  1.01396046]
 [ 1.81254495  1.01396046]
 [ 0.96642691 -0.0289703 ]
 [ 1.72877089  1.01396046]
 [ 1.30990057  1.27469315]
 [ 1.90050772  1.01396046]
 [-0.23991961 -0.0289703 ]
 [ 0.40932938 -0.0289703 ]
 [ 0.47215993 -0.0289703 ]
 [ 0.4302729  2.31762392]]

```

```
1 import numpy as np
2 from sklearn.model_selection import train_test_split
3 x=np.arange(1,25).reshape(12,2)
4 x

array([[ 1,  2],
       [ 3,  4],
       [ 5,  6],
       [ 7,  8],
       [ 9, 10],
       [11, 12],
       [13, 14],
       [15, 16],
       [17, 18],
       [19, 20],
       [21, 22],
       [23, 24]])
```

