

```
import pandas as pd
import numpy as np
import random

#dane - informacje o pogodzie
outlook=['Sunny','Sunny','Overcast','Rainy','Rainy','Rainy','Overcast','Sunny','Sunny','Rainy','Sunny','Overcast','Overcast','Rainy']
temp=['Hot','Hot','Hot','Mild','Cool','Cool','Cool','Mild','Cool','Mild','Mild','Mild','Hot','Mild']

#etykiety - czy pogoda jest odpowiednia na grę w tenisa?
play=['No','No','Yes','Yes','Yes','No','Yes','No','Yes','Yes','Yes','Yes','Yes','No']
```

Konwersja **danych katerycznych** do **danych numerycznych**:

```
from sklearn import preprocessing
le = preprocessing.LabelEncoder()

#Sunny-2,Rainy-1,Overcast-0

outlook_encoded=le.fit_transform(outlook)
temp_encoded=le.fit_transform(temp)

print(outlook_encoded)
print(temp_encoded)

[2 2 0 1 1 1 0 2 2 1 2 0 0 1]
[1 1 1 2 0 0 0 2 0 2 2 2 1 2]
```

▼ Nowa sekcja

Konwersja etykiet do **danych numerycznych**:

```
#No-0,Yes-1

label=le.fit_transform(play)
print(label)

[0 0 1 1 1 0 1 0 1 1 1 1 1 0]
```

Outlook + temp

```
data=list(zip(outlook_encoded,temp_encoded))
print(data)

[(2, 1), (2, 1), (0, 1), (1, 2), (1, 0), (1, 0), (0, 0), (2, 2), (2, 0), (1, 2), (2, 2), (0, 2), (0, 1), (1, 2)]
```

```
from sklearn.neighbors import KNeighborsClassifier
```

```
dataFile = pd.read_csv('tenis.csv')
```

```
dataFile.head()
```

	Day	Outlook	Temperature	Humidity	Wind	PlayTennis	
0	D1	Sunny	Hot	High	Weak	No	
1	D2	Sunny	Hot	High	Strong	No	
2	D3	Overcast	Hot	High	Weak	Yes	
3	D4	Rain	Mild	High	Weak	Yes	
4	D5	Rain	Cool	Normal	Weak	Yes	

A

```
from sklearn.neighbors import KNeighborsClassifier
```

```
neigh = KNeighborsClassifier(n_neighbors=3)
neigh.fit(data,label)
```

```
point = np.array([[2,2]])
```

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