```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import tensorflow
from tensorflow.keras.models import Sequential
from tensorflow.keras.layers import Layer, Dense, Dropout
data=pd.read_csv("drug200.csv")
data.head()
```

	Age	Sex	ВР	Cholesterol	Na_to_K	Drug
0	23	F	HIGH	HIGH	25.355	DrugY
1	47	М	LOW	HIGH	13.093	drugC
2	47	М	LOW	HIGH	10.114	drugC
3	28	F	NORMAL	HIGH	7.798	drugX
4	61	F	LOW	HIGH	18.043	DrugY

```
data.shape
```

(200, 6)

data.isnull().sum()

0 Age Sex 0 BP Cholesterol Na\_to\_K 0 Drug dtype: int64

Double-click (or enter) to edit

- 1. List item
- 2. List item

```
\#splitting the data values as x and y
x = data.iloc[:,0:-1]
y = data.iloc[:, -1]
```

```
BP Cholesterol Na_to_K
     Age Sex
      23
            F
                  HIGH
                              HIGH
                                      25.355
 0
 1
                  LOW
                              HIGH
      47
           M
                                      13.093
 2
      47
           M
                  LOW
                              HIGH
                                      10.114
 3
      28
            F NORMAL
                              HIGH
                                       7.798
            F
 4
      61
                  LOW
                              HIGH
                                      18.043
 ...
      ...
           ...
                                 ...
195
      56
           F
                  LOW
                              HIGH
                                      11.567
                              HIGH
196
      16
                  LOW
                                      12.006
           M
                              HIGH
197
      52
           M NORMAL
                                       9.894
198
      23
           M NORMAL
                           NORMAL
                                      14.020
<class 'pandas.core.frame.DataFrame'>
```

x.info()

```
RangeIndex: 200 entries, 0 to 199
Data columns (total 5 columns):
```

#	Column	Non-Null Count	Dtype					
0	Age	200 non-null	int64					
1	Sex	200 non-null	object					
2	BP	200 non-null	object					
3	Cholesterol	200 non-null	object					
4	Na_to_K	200 non-null	float64					
<pre>dtypes: float64(1), int64(1), object(3)</pre>								
momony usago: 7 Ot VP								

memory usage: 7.9+ KB

```
У
```

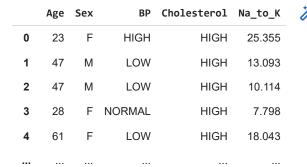
```
0
       DrugY
       drugC
1
2
       drugC
3
       drugX
4
       DrugY
       ...
195
       drugC
196
       drugC
197
       drugX
198
       drugX
199
       drugX
```

Name: Drug, Length: 200, dtype: object

```
\#splitting the data values as x and y
x = data.iloc[:,0:-1]
y = data.iloc[:, -1]
```

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BP Cholesterol Na\_to\_K



x.info

<bou< th=""><th>nd me</th><th>thod</th><th>DataFram</th><th>Age Sex</th></bou<>	nd me	thod	DataFram	Age Sex	
0 23 F		HIGH HIGH		25.355	
1	47	Μ	LOW	HIGH	13.093
2	47	Μ	LOW	HIGH	10.114
3	28	F	NORMAL	HIGH	7.798
4	61	F	LOW	HIGH	18.043
• •					
195	56	F	LOW	HIGH	11.567
196	16	Μ	LOW	HIGH	12.006
197	52	Μ	NORMAL	HIGH	9.894
198	23	Μ	NORMAL	NORMAL	14.020
199	40	F	LOW	NORMAL	11.349

[200 rows x 5 columns]>

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	Age	Sex	ВР	Cholesterol	Na_to_K	7
0	23	F	HIGH	HIGH	25.355	
1	47	М	LOW	HIGH	13.093	
2	47	М	LOW	HIGH	10.114	
3	28	F	NORMAL	HIGH	7.798	
4	61	F	LOW	HIGH	18.043	
195	56	F	LOW	HIGH	11.567	
196	16	М	LOW	HIGH	12.006	
197	52	М	NORMAL	HIGH	9.894	
198	23	М	NORMAL	NORMAL	14.020	
199	40	F	LOW	NORMAL	11.349	

200 rows × 5 columns

x.replace(np.nan,'0',inplace=True)

х

		Age	Sex		ВР	Choles	terol	Na_to_K	7
	0	23	F	HIC	ЭH		HIGH	25.355	
	1	47	М	LC	W		HIGH	13.093	
	2	47	M	LC	W		HIGH	10.114	
	3	28	F	NORM	AL		HIGH	7.798	
	4	61	F	LC	W		HIGH	18.043	
	195	56	F	LC	W		HIGH	11.567	
	400	40	R #	1.0	NA/		111011	40.000	
У									
	0 1 2 3 4	Dru dru dru dru Dru	gC gC gX						
	195 196 197 198 199 Name:	dru dru dru dru dru	gC gX gX gX	ngth: 2	00,	dtype:	objec	t	

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