In [1]:

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

import seaborn as sns
import matplotlib.pyplot as plt
%matplotlib inline

from sklearn.model_selection import train_test_split
from sklearn.preprocessing import MinMaxScaler

from tensorflow.keras.models import Sequential
from tensorflow.keras.layers import Dense, Activation
from tensorflow.keras.optimizers import Adam

from sklearn.metrics import mean_squared_error,mean_absolute_error,explained_variance_sco
re
from sklearn.metrics import classification_report,confusion_matrix
```

In [2]:

```
df = pd.read_csv('/content/House Price India.csv')
```

In [3]:

```
print(df.columns.values)
```

```
['id' 'Date' 'number of bedrooms' 'number of bathrooms' 'living area'
 'lot area' 'number of floors' 'waterfront present' 'number of views'
 'condition of the house' 'grade of the house'
 'Area of the house(excluding basement)' 'Area of the basement'
 'Built Year' 'Renovation Year' 'Postal Code' 'Lattitude' 'Longitude'
 'living_area_renov' 'lot_area_renov' 'Number of schools nearby'
 'Distance from the airport' 'Price']
```

In [4]:

```
df.head()
```

Out[4]:

	id	Date	number of bedrooms	number of bathrooms	living area	lot area	number of floors	waterfront present	number of views	condition of the house	...	Built Year	Renovation Year	Po C
0	6762810145	42491	5	2.50	3650	9050	2.0	0	4	5	...	1921	0	122
1	6762810635	42491	4	2.50	2920	4000	1.5	0	0	5	...	1909	0	122
2	6762810998	42491	5	2.75	2910	9480	1.5	0	0	3	...	1939	0	122
3	6762812605	42491	4	2.50	3310	42998	2.0	0	0	3	...	2001	0	122
4	6762812919	42491	3	2.00	2710	4500	1.5	0	0	4	...	1929	0	122

5 rows × 23 columns

In [5]:

```
df.tail()
```

Out[5]:

	id	Date	number of bedrooms	number of bathrooms	living area	lot area	number of	waterfront present	number of	condition of the	...	Built Year	Renovation Year

	id	Date	number of bedrooms	number of bathrooms	living area	lot area	number of floors	waterfront present	number of views	condition of the house	...	Built Year	Renovation Year
14615	6762830256	42734	2	1.5	1556	20000	1.0	0	0	4	...	1957	0
14616	6762830339	42734	3	2.0	1680	7000	1.5	0	0	4	...	1968	0
14617	6762830618	42734	2	1.0	1070	6120	1.0	0	0	3	...	1962	0
14618	6762830709	42734	4	1.0	1030	6621	1.0	0	0	4	...	1955	0
14619	6762831463	42734	3	1.0	900	4770	1.0	0	0	3	...	1969	2009

5 rows × 23 columns

In [6]:

```
df.isnull().sum()
```

Out[6]:

```
id                                      0
Date                                    0
number of bedrooms                      0
number of bathrooms                     0
living area                             0
lot area                                0
number of floors                        0
waterfront present                      0
number of views                         0
condition of the house                  0
grade of the house                      0
Area of the house(excluding basement)   0
Area of the basement                    0
Built Year                              0
Renovation Year                         0
Postal Code                             0
Lattitude                               0
Longitude                               0
living_area_renov                       0
lot_area_renov                          0
Number of schools nearby                0
Distance from the airport               0
Price                                   0
dtype: int64
```

In [7]:

```
dataset = df.values
X = dataset[:,0:23]
```

In [8]:

```
X
```

Out[8]:

```
array([[6.76281014e+09, 4.24910000e+04, 5.00000000e+00, ...,
        2.00000000e+00, 5.80000000e+01, 2.38000000e+06],
       [6.76281064e+09, 4.24910000e+04, 4.00000000e+00, ...,
        2.00000000e+00, 5.10000000e+01, 1.40000000e+06],
       [6.76281100e+09, 4.24910000e+04, 5.00000000e+00, ...,
        1.00000000e+00, 5.30000000e+01, 1.20000000e+06],
       ...,
       [6.76283062e+09, 4.27340000e+04, 2.00000000e+00, ...,
        2.00000000e+00, 6.40000000e+01, 2.09000000e+05],
       [6.76283071e+09, 4.27340000e+04, 4.00000000e+00, ...,
        3.00000000e+00, 5.40000000e+01, 2.05000000e+05],
       [6.76283146e+09, 4.27340000e+04, 3.00000000e+00, ...,
        2.00000000e+00, 5.50000000e+01, 1.46000000e+05]])
```

In [9]:

```
Y = dataset[: 22]
```

In [10]:

```
Y
```

Out[10]:

```
array([2380000., 1400000., 1200000., ...,  209000.,  205000.,  146000.])
```

In [11]:

```
min_max_scaler = MinMaxScaler()
X_scale = min_max_scaler.fit_transform(X)
```

In [12]:

```
X_scale
```

Out[12]:

```
array([[0.00578811, 0.        , 0.125     , ..., 0.5       , 0.26666667,
        0.30202047],
       [0.0284775 , 0.        , 0.09375   , ..., 0.5       , 0.03333333,
        0.17344529],
       [0.04528616, 0.        , 0.125     , ..., 0.        , 0.1       ,
        0.14720546],
       ...,
       [0.95378774, 1.        , 0.03125   , ..., 0.5       , 0.46666667,
        0.01718709],
       [0.95800148, 1.        , 0.09375   , ..., 1.        , 0.13333333,
        0.01666229],
       [0.99291535, 1.        , 0.0625    , ..., 0.5       , 0.16666667,
        0.00892154]])
```

In [13]:

```
X_train, X_val_and_test, Y_train, Y_val_and_test = train_test_split(X_scale, Y, test_siz
e=0.3)
```

In [14]:

```
X_val, X_test, Y_val, Y_test = train_test_split(X_val_and_test, Y_val_and_test, test_siz
e=0.5)
```

In [15]:

```
print(X_train.shape, X_val.shape, X_test.shape, Y_train.shape, Y_val.shape, Y_test.shape
)
```

```
(10234, 23) (2193, 23) (2193, 23) (10234,) (2193,) (2193,)
```

In [16]:

```
model = Sequential([
    Dense(32, activation='relu', input_shape=(23,)),
    Dense(32, activation='relu'),
    Dense(1, activation='sigmoid'),
])
```

In [17]:

```
model.compile(optimizer='sgd',
              loss='binary_crossentropy',
              metrics=['accuracy'])
```

In [18]:

```
hist = model.fit(X_train, Y_train,
          batch_size=32, epochs=100,
          validation_data=(X_val, Y_val))
```

```
Epoch 1/100
320/320 [==============================] - 2s 4ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 2/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 3/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 4/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 5/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 6/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 7/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 8/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 9/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 10/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 11/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 12/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 13/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 14/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 15/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 16/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 17/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 18/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 19/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 20/100
320/320 [==============================] - 1s 4ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 21/100
320/320 [==============================] - 2s 6ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 22/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 23/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 24/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
```

```
Epoch 25/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 26/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 27/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 28/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 29/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 30/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 31/100
320/320 [==============================] - 1s 5ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 32/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 33/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 34/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 35/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 36/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 37/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 38/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 39/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 40/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 41/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 42/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 43/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 44/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 45/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 46/100
320/320 [==============================] - 1s 4ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 47/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 48/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
```

```
Epoch 49/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 50/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 51/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 52/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 53/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 54/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 55/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 56/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 57/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 58/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 59/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 60/100
320/320 [==============================] - 1s 4ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 61/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 62/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 63/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 64/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 65/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 66/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 67/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 68/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 69/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 70/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 71/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 72/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
```

```
Epoch 73/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 74/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 75/100
320/320 [==============================] - 1s 4ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 76/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 77/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 78/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 79/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 80/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 81/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 82/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 83/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 84/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 85/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 86/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 87/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 88/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 89/100
320/320 [==============================] - 2s 5ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 90/100
320/320 [==============================] - 1s 4ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 91/100
320/320 [==============================] - 1s 3ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 92/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 93/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 94/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 95/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 96/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
```

```
Epoch 97/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 98/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 99/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
Epoch 100/100
320/320 [==============================] - 1s 2ms/step - loss: nan - accuracy: 0.0000e+00
- val_loss: nan - val_accuracy: 0.0000e+00
```

In [19]:

```
model.evaluate(X_test, Y_test)[1]
```

```
69/69 [==============================] - 0s 2ms/step - loss: nan - accuracy: 0.0000e+00
```

Out[19]:

```
0.0
```

In [20]:

```
a = model.predict(X)
```

```
457/457 [==============================] - 1s 1ms/step
```

In [21]:

```
a[:10]
```

Out[21]:

```
array([[nan],
       [nan],
       [nan],
       [nan],
       [nan],
       [nan],
       [nan],
       [nan],
       [nan],
       [nan]], dtype=float32)
```