```
In [1]: # import libraries
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

In [2]: from sklearn.linear\_model import LogisticRegression

```
In [3]: # To Import Dataset
sd=pd.read_csv(r"c:\Users\user\Downloads\C6_bmi.csv")
sd
```

## Out[3]:

|     | Gender | Height | Weight | Index |
|-----|--------|--------|--------|-------|
| 0   | Male   | 174    | 96     | 4     |
| 1   | Male   | 189    | 87     | 2     |
| 2   | Female | 185    | 110    | 4     |
| 3   | Female | 195    | 104    | 3     |
| 4   | Male   | 149    | 61     | 3     |
|     |        |        |        |       |
| 495 | Female | 150    | 153    | 5     |
| 496 | Female | 184    | 121    | 4     |
| 497 | Female | 141    | 136    | 5     |
| 498 | Male   | 150    | 95     | 5     |
| 499 | Male   | 173    | 131    | 5     |

500 rows × 4 columns

```
In [6]: sd.dropna()
sd
```

## Out[6]:

| Gender | Height   | Weight  | Index   |
|--------|--|---|---|
| Male   | 174  | 96  | 4   |
| Male   | 189  | 87  | 2   |
| Female | 185  | 110   | 4   |
| Female | 195  | 104   | 3   |
| Male   | 149  | 61  | 3   |
|        |  |   |   |
| Female | 150  | 153   | 5   |
| Female | 184  | 121   | 4   |
| Female | 141  | 136   | 5   |
| Male   | 150  | 95  | 5   |
| Male   | 173  | 131   | 5   |
|        | Male Male Female Female Male Female Female Female Male | Male       174         Male       189         Female       185         Female       195         Male       149             Female       150         Female       141         Male       150 | Male       174       96         Male       189       87         Female       185       110         Female       195       104         Male       149       61              Female       150       153         Female       184       121         Female       141       136         Male       150       95 |

500 rows × 4 columns

## In [7]: sd.fillna(20)

## Out[7]:

|     | Gender | Height | Weight | Index |
|-----|--------|--------|--------|-------|
| 0   | Male   | 174    | 96     | 4     |
| 1   | Male   | 189    | 87     | 2     |
| 2   | Female | 185    | 110    | 4     |
| 3   | Female | 195    | 104    | 3     |
| 4   | Male   | 149    | 61     | 3     |
|     |        |        |        |       |
| 495 | Female | 150    | 153    | 5     |
| 496 | Female | 184    | 121    | 4     |
| 497 | Female | 141    | 136    | 5     |
| 498 | Male   | 150    | 95     | 5     |
| 499 | Male   | 173    | 131    | 5     |
|     |        |        |        |       |

500 rows × 4 columns

```
In [16]: feature_matrix = sd[['Height','Weight']]
    target_vector=sd['Index']
```

```
In [17]: feature_matrix.shape
Out[17]: (500, 2)
In [18]: target_vector.shape
Out[18]: (500,)
In [19]: from sklearn.preprocessing import StandardScaler
In [20]: fs=StandardScaler().fit_transform(feature_matrix)
In [21]: logr= LogisticRegression() logr.fit(fs,target_vector)
Out[21]: LogisticRegression()
In [22]: observation =[[1.2,2.3,3.3]]
In [23]: logr.classes_
Out[23]: array([0, 1, 2, 3, 4, 5], dtype=int64)
In []:
```