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Experiment:-3

```
import pandas as pd
```

```
from google.colab import files
uploades = files.upload()
```

Choose Files diabetes.csv

- **diabetes.csv**(text/csv) - 23873 bytes, last modified: 3/20/2023 - 100% done

```
Saving diabetes.csv to diabetes.csv
```

```
data = pd.read_csv("diabetes.csv")
```

```
data.head(10)
```

	Pregnancies	Glucose	BloodPressure	SkinThickness	Insulin	BMI	DiabetesPedigre
0	6	148	72	35	0	33.6	
1	1	85	66	29	0	26.6	
2	8	183	64	0	0	23.3	
3	1	89	66	23	94	28.1	
4	0	137	40	35	168	43.1	
5	5	116	74	0	0	25.6	
6	3	78	50	32	88	31.0	
7	10	115	0	0	0	35.3	

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```
data.dtypes
```

```
Pregnancies                   int64
Glucose                       int64
BloodPressure                 int64
SkinThickness                 int64
Insulin                       int64
BMI                         float64
DiabetesPedigreeFunction    float64
Age                           int64
Outcome                       int64
dtype: object
```

```
data.describe()
```

	Pregnancies	Glucose	BloodPressure	SkinThickness	Insulin	BMI	DiabetesPedigreeFu
count	768.000000	768.000000	768.000000	768.000000	768.000000	768.000000	768.
mean	3.845052	120.894531	69.105469	20.536458	79.799479	31.992578	0.
std	3.369578	31.972618	19.355807	15.952218	115.244002	7.884160	0.
min	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.
25%	1.000000	99.000000	62.000000	0.000000	0.000000	27.300000	0.
50%	3.000000	117.000000	72.000000	23.000000	30.500000	32.000000	0.
75%	6.000000	140.250000	80.000000	32.000000	127.250000	36.600000	0.
max	17.000000	199.000000	122.000000	99.000000	846.000000	67.100000	2.

```
from sklearn.model_selection import train_test_split

X = data.drop("Outcome", axis = 1)
y = data[["Outcome"]]
```

```
X_train, X_test, y_train, y_test = train_test_split(X,y,test_size=0.30, random_state=1)
```

```
from sklearn.naive_bayes import GaussianNB
```

```
model = GaussianNB()
model.fit(X_train, y_train)
```

```
     /usr/local/lib/python3.9/dist-packages/sklearn/utils/validation.py:1143: DataConversionWarning: A colum
       y = column_or_1d(y, warn=True)
     ▾ GaussianNB
     GaussianNB()
```

```
y_pred = model.predict(X_test)
```

```
from sklearn import metrics
```

```
print ("Accuracy:", metrics.accuracy_score (y_test, y_pred))
```

```
     Accuracy: 0.7835497835497836
```

```
test_pred = model.predict(X_test)
```

```
print(metrics.classification_report(y_test, test_pred))
print(metrics.confusion_matrix(y_test, test_pred))
```

```
                   precision    recall  f1-score   support

                0       0.80      0.88      0.84       146
                1       0.75      0.62      0.68        85

         accuracy                           0.78       231
        macro avg       0.77      0.75      0.76       231
     weighted avg       0.78      0.78      0.78       231
```

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