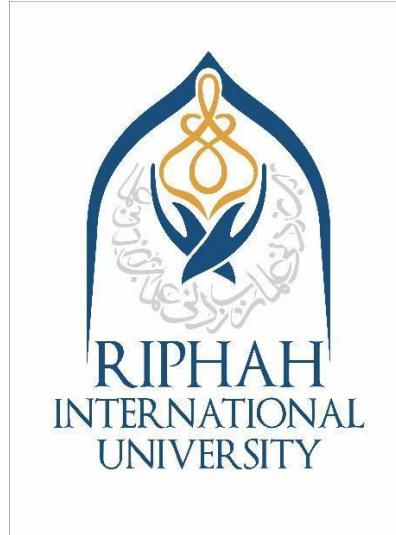


LAB # 11
Artificial Intelligence



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```
[1] import pandas as pd
    from sklearn.model_selection import train_test_split
    from sklearn.naive_bayes import GaussianNB
    from sklearn.metrics import classification_report, accuracy_score
    from sklearn.preprocessing import LabelEncoder
```

```
[3] # Load dataset
    data = pd.read_csv("public-data.csv")
```

```
[4] data = data.replace(" ?", pd.NA).dropna()
```

```
[7] le = LabelEncoder()
    for column in data.columns:
        if data[column].dtype == 'object':
            data[column] = le.fit_transform(data[column])
```

```
[8] # Define features and label
    X = data.drop("Salary", axis=1)
    y = data["Salary"]
```



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```
[9] X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)
```

```
[10] model = GaussianNB()
    model.fit(X_train, y_train)
```

↔ GaussianNB 1 2

GaussianNB()

```
[11] # Predict
    y_pred = model.predict(X_test)
```

```
print("Accuracy:", accuracy_score(y_test, y_pred))
print("\nPredicted labels:", y_pred)
print("Actual labels: ", y_test.values)
print("\nClassification Report:\n", classification_report(y_test, y_pred))
```



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[11] y_pred = model.predict(x_test)

0s



0s

<>

{x}



```
print("Accuracy:", accuracy_score(y_test, y_pred))
print("\nPredicted labels:", y_pred)
print("Actual labels: ", y_test.values)
print("\nClassification Report:\n", classification_report(y_test, y_pred))
```



Accuracy: 0.760325502840473

Predicted labels: [0 0 0 ... 1 0 0]

Actual labels: [0 0 1 ... 1 0 0]

Classification Report:

	precision	recall	f1-score	support
0	0.87	0.80	0.84	4942
1	0.50	0.63	0.56	1571
accuracy			0.76	6513
macro avg	0.69	0.72	0.70	6513
weighted avg	0.78	0.76	0.77	6513