Importing Libraries

```
import pandas as pd
import numpy as np
from sklearn.model_selection import train_test_split
from sklearn.ensemble import RandomForestClassifier
from sklearn.preprocessing import LabelEncoder
from sklearn.metrics import classification_report, confusion_matrix
from sklearn.utils.multiclass import unique_labels
```

Loading Data

```
df=pd.read_csv("/content/Dataset .csv")
```

Filling Missing Values

```
df['Cuisines'] = df['Cuisines'].fillna('Unknown')
df = df.dropna()
```

```
df['Main Cuisine'] = df['Cuisines'].apply(lambda x: x.split(',')[0].strip())
```

```
features = ['Has Table booking', 'Has Online delivery', 'Price range', 'Aggregate rating'
df = df[features + ['Main Cuisine']]
```

```
df['Has Table booking'] = df['Has Table booking'].map({'Yes': 1, 'No': 0})
df['Has Online delivery'] = df['Has Online delivery'].map({'Yes': 1, 'No': 0})
```

Handle Missing Values

```
le = LabelEncoder()
df['Cuisine_Label'] = le.fit_transform(df['Main Cuisine'])
```

```
X = df[features]
y = df['Cuisine_Label']
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)
```

Model Building

```
model = RandomForestClassifier(n_estimators=100, random_state=42)
model.fit(X_train, y_train)
```

```
RandomForestClassifier
RandomForestClassifier(random_state=42)
```

```
labels = unique_labels(y_test, y_pred)
class_names = le.inverse_transform(labels)
print("Classification Report:\n", classification_report(y_test, y_pred, labels=l
```

```
Classification Report:
                   precision    recall  f1-score   support

         American       0.14      0.07      0.09        46
           Andhra       0.00      0.00      0.00         1
            Asian       0.00      0.00      0.00        13
              BBQ       0.00      0.00      0.00         3
           Bakery       0.17      0.12      0.14       112
        Bar Food        0.00      0.00      0.00         5
          Bengali       0.00      0.00      0.00         3
        Beverages       0.00      0.00      0.00        19
           Bihari       0.00      0.00      0.00         1
          Biryani       0.00      0.00      0.00        18
        Brazilian       0.00      0.00      0.00         3
        Breakfast       0.00      0.00      0.00         8
          British       0.00      0.00      0.00         4
           Burger       0.00      0.00      0.00        20
         Burmese        0.33      0.33      0.33         3
            Cafe        0.12      0.11      0.12       126
         Chinese        0.06      0.01      0.02       164
  Coffee and Tea        0.00      0.00      0.00         4
    Contemporary        0.00      0.00      0.00         2
     Continental        0.12      0.05      0.07        41
        Desserts        0.20      0.03      0.05        33
     Drinks Only        0.00      0.00      0.00         1
        European        0.00      0.00      0.00        14
       Fast Food        0.09      0.03      0.04       138
        Filipino        0.00      0.00      0.00         3
     Finger Food        0.08      0.04      0.06        23
          French        0.00      0.00      0.00         5
            Goan        0.00      0.00      0.00         6
           Greek        0.00      0.00      0.00         2
        Gujarati        0.00      0.00      0.00         2
    Healthy Food        0.00      0.00      0.00        10
      Hyderabadi        0.00      0.00      0.00         3
       Ice Cream        0.00      0.00      0.00        31
          Indian        0.00      0.00      0.00         9
   International        0.00      0.00      0.00         2
           Irish        0.00      0.00      0.00         1
         Italian        0.18      0.12      0.15        56
        Japanese        0.00      0.00      0.00        18
          Juices        0.00      0.00      0.00         5
        Kashmiri        0.00      0.00      0.00         2
          Kerala        0.00      0.00      0.00         3
          Korean        0.00      0.00      0.00         1
  Latin American        0.00      0.00      0.00         1
        Lebanese        0.00      0.00      0.00         6
        Lucknowi        0.00      0.00      0.00         2
       Malaysian        0.00      0.00      0.00         3
    Mediterranean       0.00      0.00      0.00         6
```

Mexican	0.00	0.00	0.00	15
Middle Eastern	0.00	0.00	0.00	1
Mithai	0.00	0.00	0.00	40
Modern Indian	0.00	0.00	0.00	2
Mughlai	0.00	0.00	0.00	47
Naga	0.00	0.00	0.00	1
New American	0.00	0.00	0.00	1

Start coding or generate with AI.