Model Development Phase

Date	July 2024
Team ID	739765
Project Title	Occupancy Rates and Demand in the Hospitality Industry.
Maximum Marks	4 Marks

Initial Model Training Code, Model Validation and Evaluation Report

The initial model training code will be showcased in the future through a screenshot. The model validation and evaluation report will include classification reports, accuracy, and confusion matrices for multiple models, presented through respective screenshots.

Initial Model Training Code:

```
from sklearn.preprocessing import LabelEncoder
label_encoder_x=LabelEncoder()
df['year']=label_encoder_x.fit_transform(df['year'])
df['month']=label_encoder_x.fit_transform(df['month'])
df['day']=label_encoder_x.fit_transform(df['day'])
df.info()
```

Model Validation and Evaluation Report:

Model	Classification Report	Accuracy	Confusion Matrix

Logistic Regression		99.83	-
| | ```python
from sklearn.linear_model import LogisticRegression
lr = LogisticRegression()
lr.fit(x_train, y_train)
``` | 99.88 | |
| Decision Tree Classifier | ```python
from sklearn.tree import DecisionTreeClassifier
classifier = DecisionTreeClassifier(random_state = 0)
classifier.fit(x_train,y_train)
```

```
▼        DecisionTreeClassifier
DecisionTreeClassifier(random_state=0)
``` | | - |