

## Model Development Phase

Date	July 2024
Team ID	740714
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	<pre>from sklearn.linear_model import LogisticRegression lr = LogisticRegression() lr.fit(x_train, y_train)</pre>	99.83	-
Decision Tree Classifier	<pre>from sklearn.tree import DecisionTreeClassifier classifier = DecisionTreeClassifier(random_state = 0) classifier.fit(x_train,y_train)</pre> <pre>DecisionTreeClassifier DecisionTreeClassifier(random_state=0)</pre>	99.88	-