AI Model for Logistic Regression

```
import pandas as pd
import warnings
warnings.filterwarnings('ignore')


df= pd.read_csv('travel_data.csv');


from sklearn.model_selection import train_test_split
# String colums dataset 80% train and 20% test data
def prepare_data_for_model(df, target_column='booking_made'):


    y = df[target_column]
    X = df.drop(columns=[target_column])


    categorical_cols = X.select_dtypes(include=['object', 'string']).columns
    X_encoded = pd.get_dummies(X, columns=categorical_cols, drop_first=True)

    # Train data and test data split
    X_train, X_test, y_train, y_test = train_test_split(
        X_encoded, y, test_size=0.2, random_state=100
    )

    return X_train, X_test, y_train, y_test




def prepare_data_for_model_x_y(df, target_column='booking_made'):


    y = df[target_column]
    X = df.drop(columns=[target_column])

    categorical_cols = X.select_dtypes(include=['object', 'string']).columns
    X_encoded = pd.get_dummies(X, columns=categorical_cols, drop_first=True)



    return X_encoded, y


# set x_train, x_test, y_train, y_test data
x_train, x_test, y_train, y_test = prepare_data_for_model(
    df,
    target_column='booking_made'

)


# set x,y full data
x, y = prepare_data_for_model_x_y(
    df,
    target_column='booking_made'

)


# model predictions based on x,y full data



from sklearn.linear_model import LogisticRegression;
model = LogisticRegression();
model.fit(x,y);
predictions = model.predict(x)
print('\n \n predictions on full dataset \n')
print(predictions)
```

```
import matplotlib.pyplot as plt
plt.plot(predictions)
plt.xlabel('No of Users')
plt.ylabel('booking_made')
plt.legend()
plt.show()
```

```
 predictions on full dataset

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```

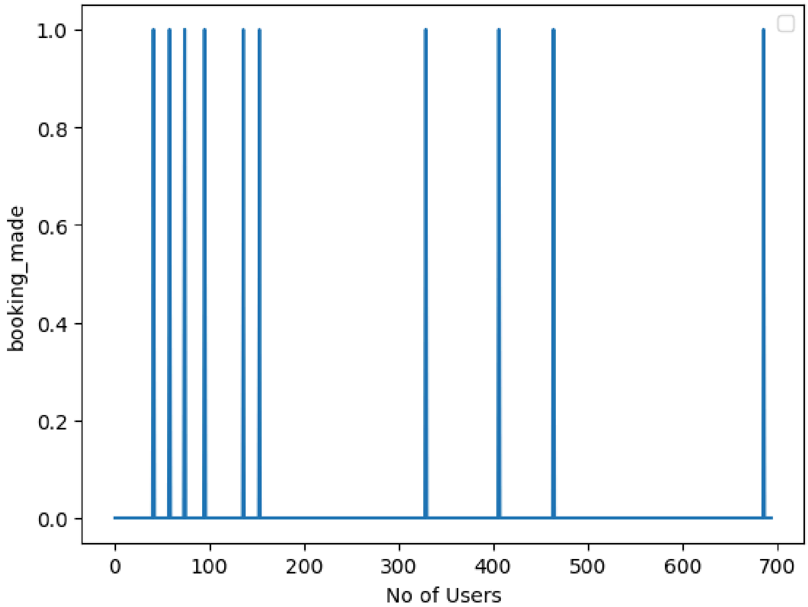


```
# model predictions based on x_train,y_train 80% of data or x_test,y_test 20% of test data
from sklearn.linear_model import LogisticRegression;
model = LogisticRegression();
model.fit(x_train,y_train);
predictions = model.predict(x_train)
print('\n \n predictions on train dataset \n')
print(predictions)

import matplotlib.pyplot as plt
plt.plot(predictions)
plt.xlabel('No of Users')
plt.ylabel('booking_made')
plt.legend()
plt.show()
```

predictions on train dataset

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