

Name: Arooj Shareef

Class: BS AI (4A)

Roll no: SU92-BSAIM-F23-047

Lab task: 02

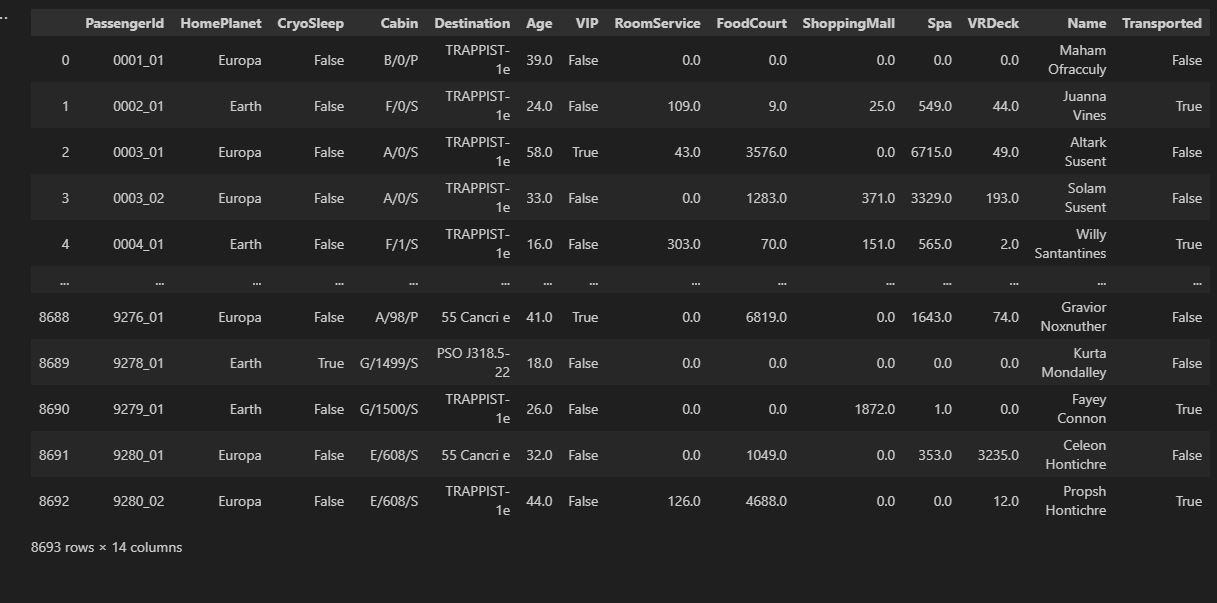
Submitted to: Sir Rasikh Ali

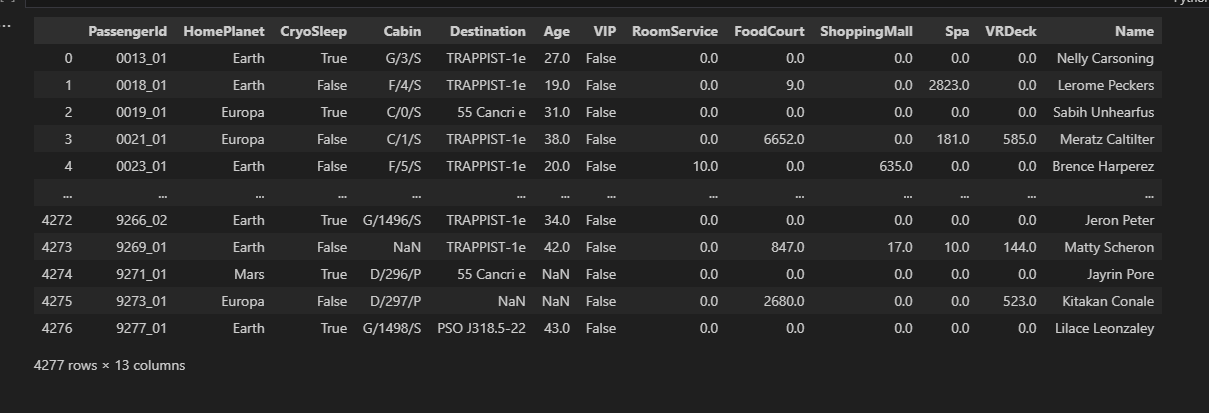
Description of House Price Prediction .

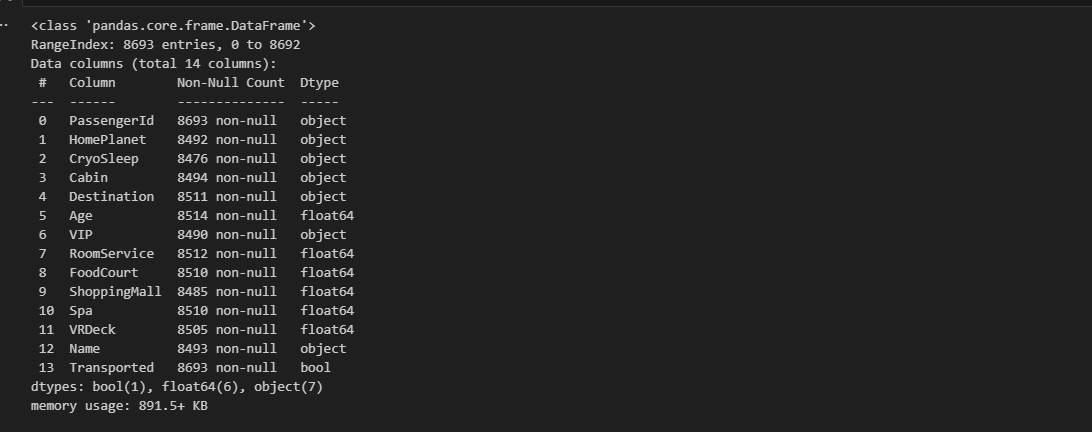
This a machine learning exercise for predicting whether passengers were transported from a dataset. The dataset is presented by features such as HomePlanet, CryoSleep, Cabin, Destination, Age, VIP, and others.

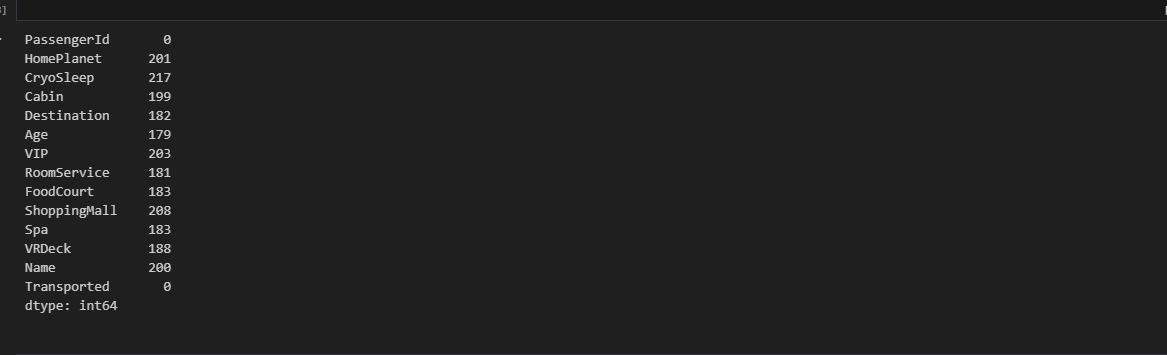
**The code follows these steps:**  
  
**Data Loading:** Loads training and test datasets from CSV files.  
  
**Data Preprocessing:**  
Deals with missing values by replacing them with the mode (in categorical columns) or the mean (in numerical columns).Transforms categorical variables into encoded values using **LabelEncoder**.Replaces **Boolean** columns with integers.  
  
**Feature Selection:** Eliminates redundant columns and initializes the feature matrix (X)and target vector (y).  
  
**Model Training:** Trains the model from the preprocessed training data with a **RandomForestClassifier.**  
  
**Prediction:** Utilizes the trained model with the test data to make predictions of whether the passengers were shipped.  
  
**Submission Preparation:** Prepares the predictions into a CSV file for submission.  
  
The code is designed to support a standard machine learning pipeline, such as data cleaning, feature engineering, model training, and prediction.

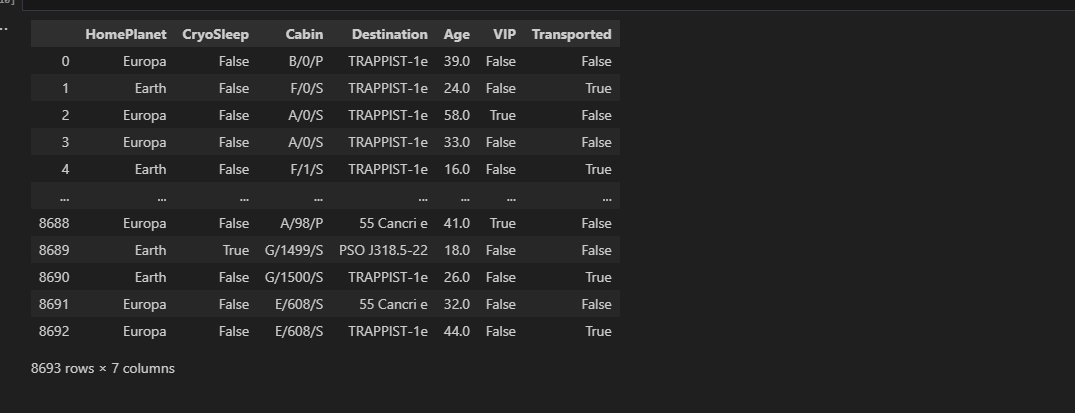
Output Screenshots:

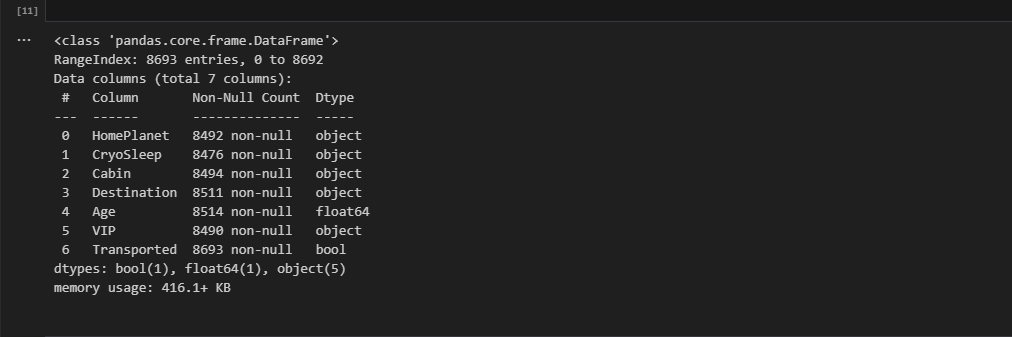
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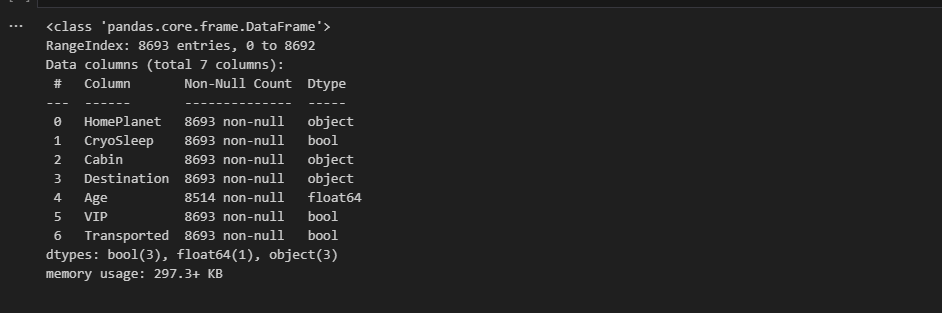
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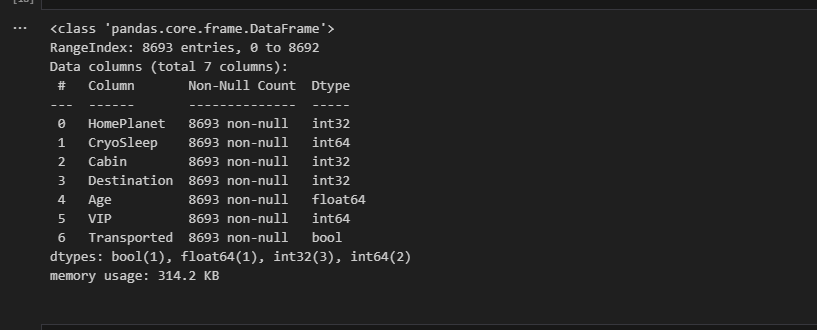
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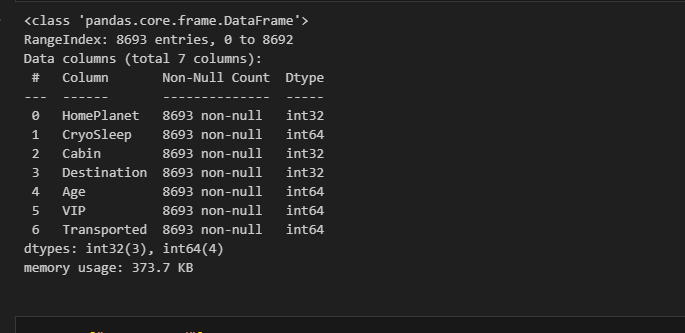
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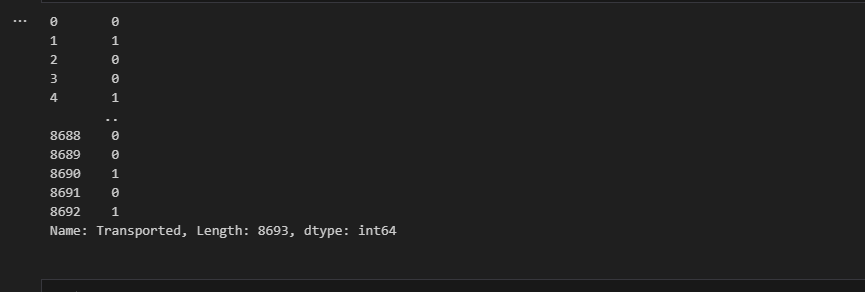
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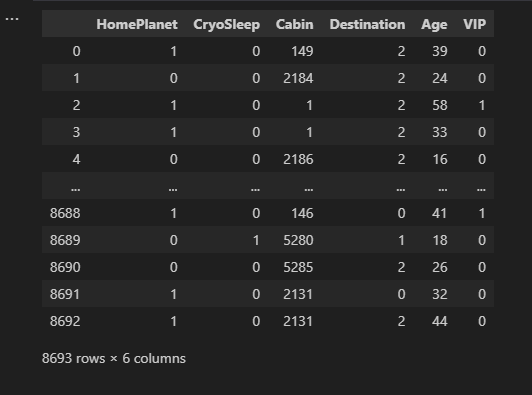
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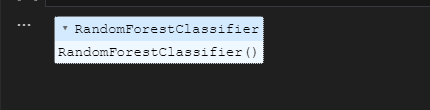
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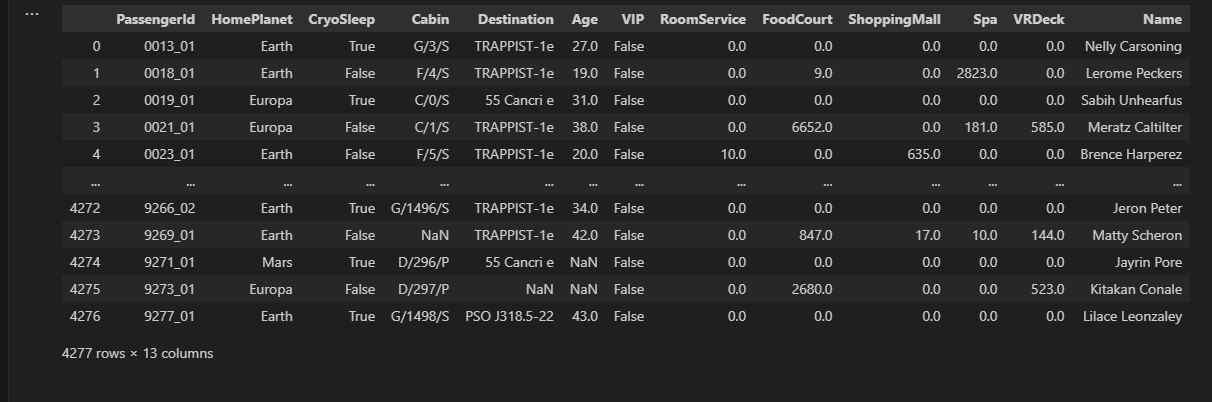
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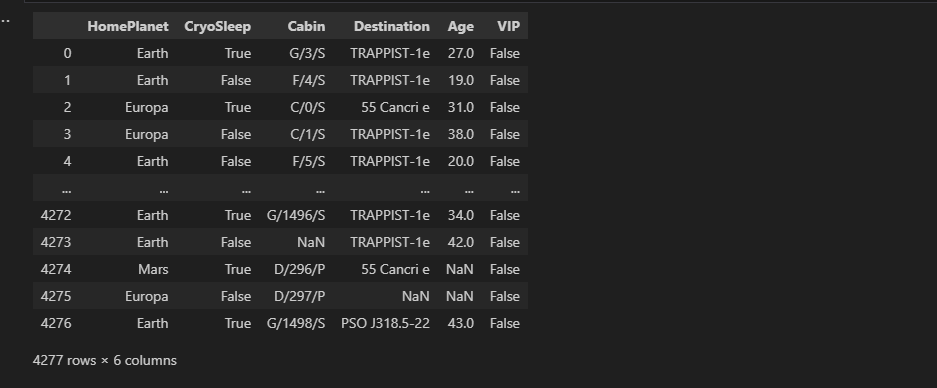
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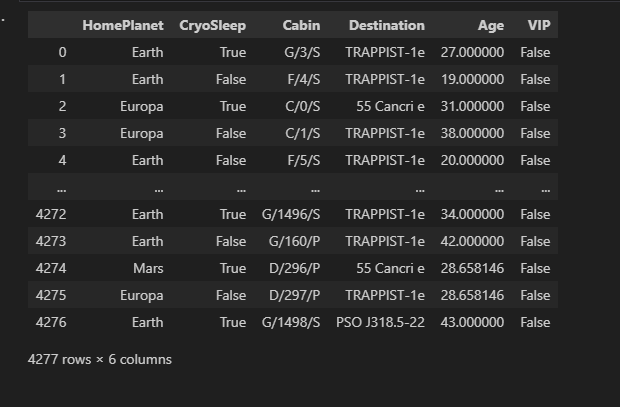
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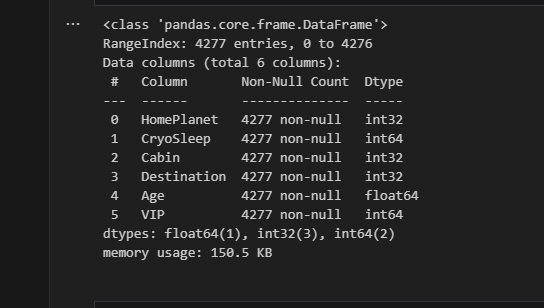
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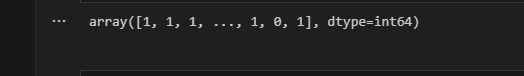
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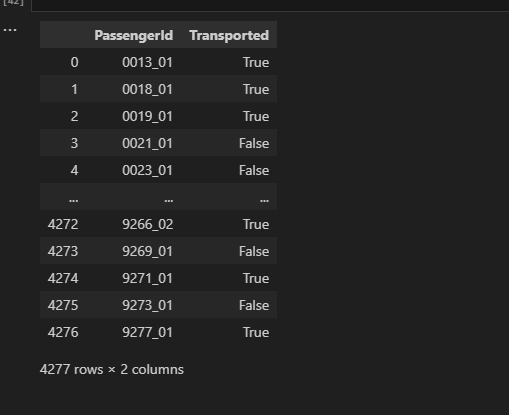
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