**NAME :Gullay zahra**

**Roll number:044**

**Spaceship Titanic :**

**Introduction**

The Spaceship Titanic competition is a machine learning challenge focused on predicting whether passengers were transported to another dimension. This report details the steps taken to clean the data, train a model, and evaluate its effectiveness.

**Data Preparation**

1. Loading the Data

The dataset was imported using the pandas library to analyze its structure and contents.

2. Handling Missing Values

To deal with missing data, certain columns such as Age, RoomService, FoodCourt, ShoppingMall, Spa, VRDeck, and Cabin were removed to simplify the dataset.

3. Encoding Categorical Data

Categorical features were converted into numerical values using Label Encoding to make them compatible with the machine learning model.

**Model Training & Evaluation**

1. Choosing the Model

A Random Forest Classifier was selected due to its ability to handle complex data and provide robust results.

2. Training the Model

The model was trained using the preprocessed dataset, allowing it to learn patterns from the available data.

3. Evaluating Performance

Predictions were tested on unseen data to measure accuracy.

The effectiveness of the model was analyzed based on its performance metrics.

Conclusion & Future Enhancements

The project involved key steps such as data preprocessing, feature selection, and model training.

**Accuracy:**

