**Perform data cleaning and exploratory data analysis (EDA) on a dataset of your choice, such as the Titanic dataset from Kaggle. Explore the relationships between variables and identify patterns and trends in the data.**

Import pandas as pd

# Assuming you have the dataset (e.g., titanic.csv) in your working directory

Df = pd.read\_csv(‘titanic.csv’)

# Display the first few rows

Print(df.head())

# Check for missing values

Print(df.isnull().sum())

# Handle missing values (example: filling missing ages with the median)

Df[‘Age’].fillna(df[‘Age’].median(), inplace=True)

# Drop irrelevant columns

Df.drop([‘PassengerId’, ‘Name’, ‘Ticket’, ‘Cabin’], axis=1, inplace=True)

Import seaborn as sns

Import matplotlib.pyplot as plt

# Correlation heatmap

Corr\_matrix = df.corr()

Sns.heatmap(corr\_matrix, annot=True, cmap=’coolwarm’, fmt=”.2f”)

Plt.title(‘Correlation Heatmap’)

Plt.show()