Ex:1

Load the titanic dataset and convert it into a dataframe.

AIM:

To perform basic preprocessing & exploiting data analysis on the titanic dataset using pandas, seaborn, sklearn tools.

Procedure:

Load the dataset.

Display & explore column datatypes.

Apply forward fill & backward fill methods of age column.

Fill the missing column value.

Remove the unwanted column

Encode the sex column

Display the conclusion.

Code:

```
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
from sklearn.preprocessing import
label encoder, standard Scaler
```

```
df = sns.load_dataset('titanic')
print("First 5 Rows")
```

Output:

First 5 rows.

survived	pclass	sex	age	sibsp	parch	fare
0	3	M	22	1	7.28	S
1	1	F	28	1	7.32	C
1	3	F	26	0	7.82	Q
0	1	M	35	1	7.54	S

who	adult_male	deck	embark_town
Man	True	NaN	Southampton
Woman	False	C	Cherbourg
Man	True	NaN	Southampton
Woman	False	C	Southampton

Data info:

<class pandas.core.frame.DataFrame>

RangeIndex: 891 entries, 0 to 890

Data columns (total 15 columns).

```
display(df.head())
print('\nInfo:')
df.info()
df['age'] = df['pclass'].fillna(df['age'].mean())
df['embarked'] = df['embarked'].fillna(df['embarked'].mode()[0])
plt.figure(figsize=(8,6))
sns.heatmap(df.corr(), annot=True, cmap='coolwarm')
plt.title("Correlation Heatmap")
plt.show()
```

Result:

Thus the required program of plotting has been executed.