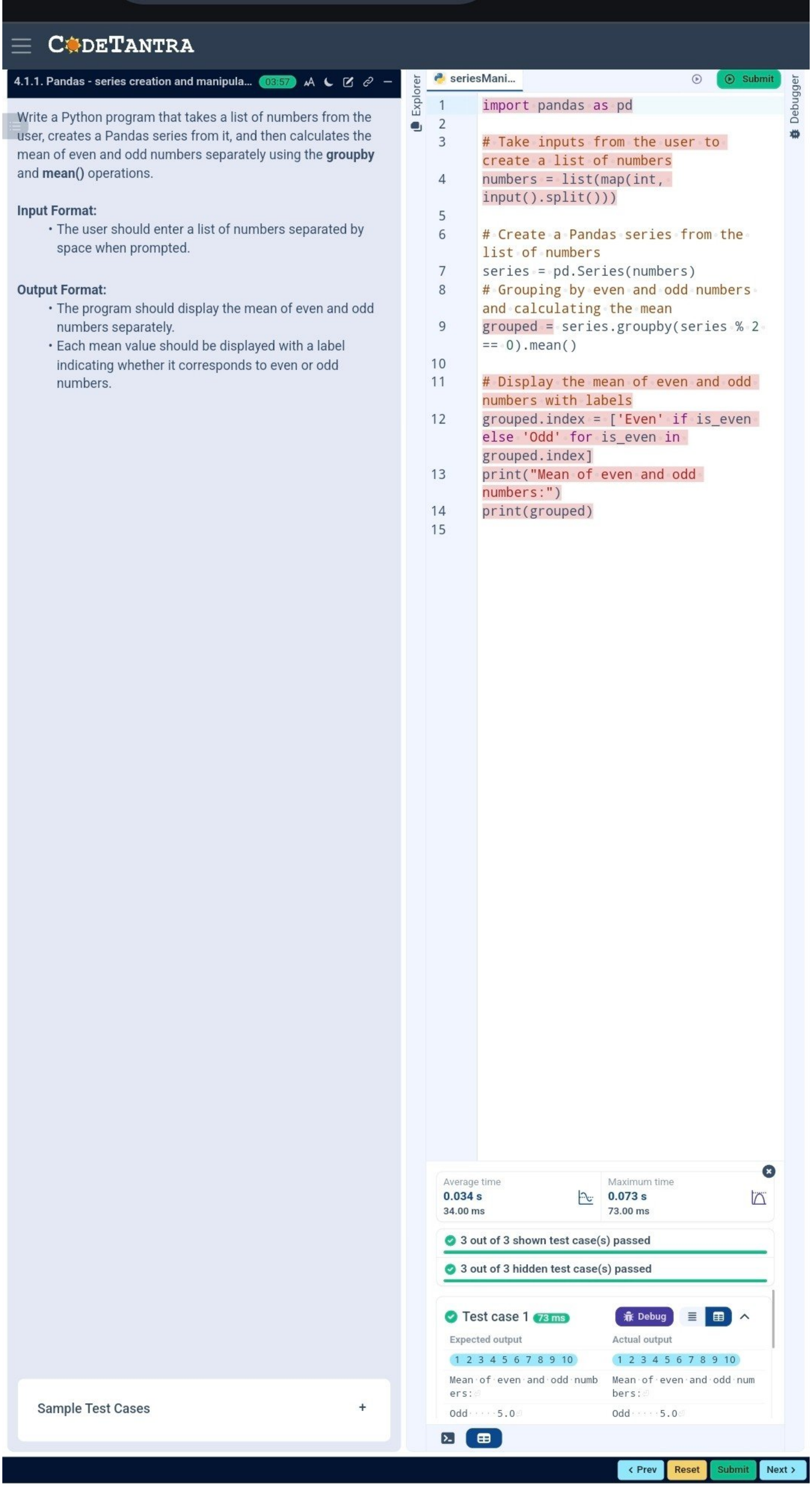


Write a Python program that takes a list of numbers from the user, creates a Pandas series from it, and then calculates the mean of even and odd numbers separately using the **groupby** and **mean()** operations.

Input Format:

- The user should enter a list of numbers separated by space when prompted.

Output Format:

- The program should display the mean of even and odd numbers separately.
- Each mean value should be displayed with a label indicating whether it corresponds to even or odd numbers.

```python
import pandas as pd

# Take inputs from the user to create a list of numbers
numbers = list(map(int, input().split()))

# Create a Pandas series from the list of numbers
series = pd.Series(numbers)
# Grouping by even and odd numbers and calculating the mean
grouped = series.groupby(series % 2 == 0).mean()

# Display the mean of even and odd numbers with labels
grouped.index = ['Even' if is_even else 'Odd' for is_even in grouped.index]
print("Mean of even and odd numbers:")
print(grouped)

```

Average time
0.034 s
34.00 ms

Maximum time
0.073 s
73.00 ms

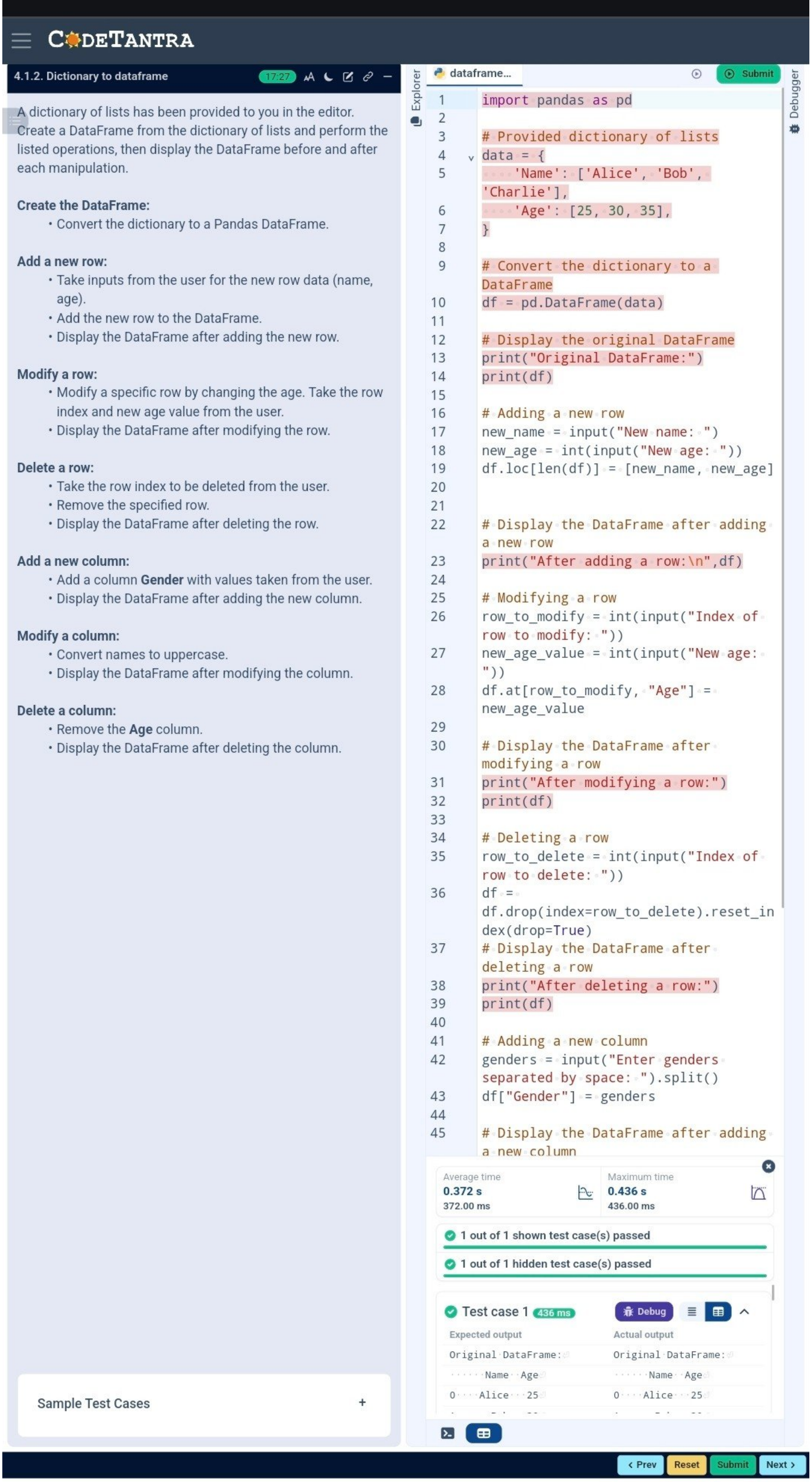
3 out of 3 shown test case(s) passed

3 out of 3 hidden test case(s) passed

Test case 1 73 ms

Expected output	Actual output
1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10
Mean of even and odd numbers:	Mean of even and odd numbers:
Odd 5.0	Odd 5.0

Sample Test Cases +



4.1.2. Dictionary to dataframe

A dictionary of lists has been provided to you in the editor. Create a DataFrame from the dictionary of lists and perform the listed operations, then display the DataFrame before and after each manipulation.

Create the DataFrame:

- Convert the dictionary to a Pandas DataFrame.

Add a new row:

- Take inputs from the user for the new row data (name, age).
- Add the new row to the DataFrame.
- Display the DataFrame after adding the new row.

Modify a row:

- Modify a specific row by changing the age. Take the row index and new age value from the user.
- Display the DataFrame after modifying the row.

Delete a row:

- Take the row index to be deleted from the user.
- Remove the specified row.
- Display the DataFrame after deleting the row.

Add a new column:

- Add a column **Gender** with values taken from the user.
- Display the DataFrame after adding the new column.

Modify a column:

- Convert names to uppercase.
- Display the DataFrame after modifying the column.

Delete a column:

- Remove the **Age** column.
- Display the DataFrame after deleting the column.

Sample Test Cases +

```python
import pandas as pd

# Provided dictionary of lists
data = {
    'Name': ['Alice', 'Bob', 'Charlie'],
    'Age': [25, 30, 35],
}

# Convert the dictionary to a DataFrame
df = pd.DataFrame(data)

# Display the original DataFrame
print("Original DataFrame:")
print(df)

# Adding a new row
new_name = input("New name: ")
new_age = int(input("New age: "))
df.loc[len(df)] = [new_name, new_age]


# Display the DataFrame after adding a new row
print("After adding a row:\n",df)

# Modifying a row
row_to_modify = int(input("Index of row to modify: "))
new_age_value = int(input("New age: "))
df.at[row_to_modify, "Age"] = new_age_value

# Display the DataFrame after modifying a row
print("After modifying a row:")
print(df)

# Deleting a row
row_to_delete = int(input("Index of row to delete: "))
df = df.drop(index=row_to_delete).reset_index(drop=True)
# Display the DataFrame after deleting a row
print("After deleting a row:")
print(df)

# Adding a new column
genders = input("Enter genders separated by space: ").split()
df["Gender"] = genders

# Display the DataFrame after adding a new column
```

Average time
0.372 s
372.00 ms

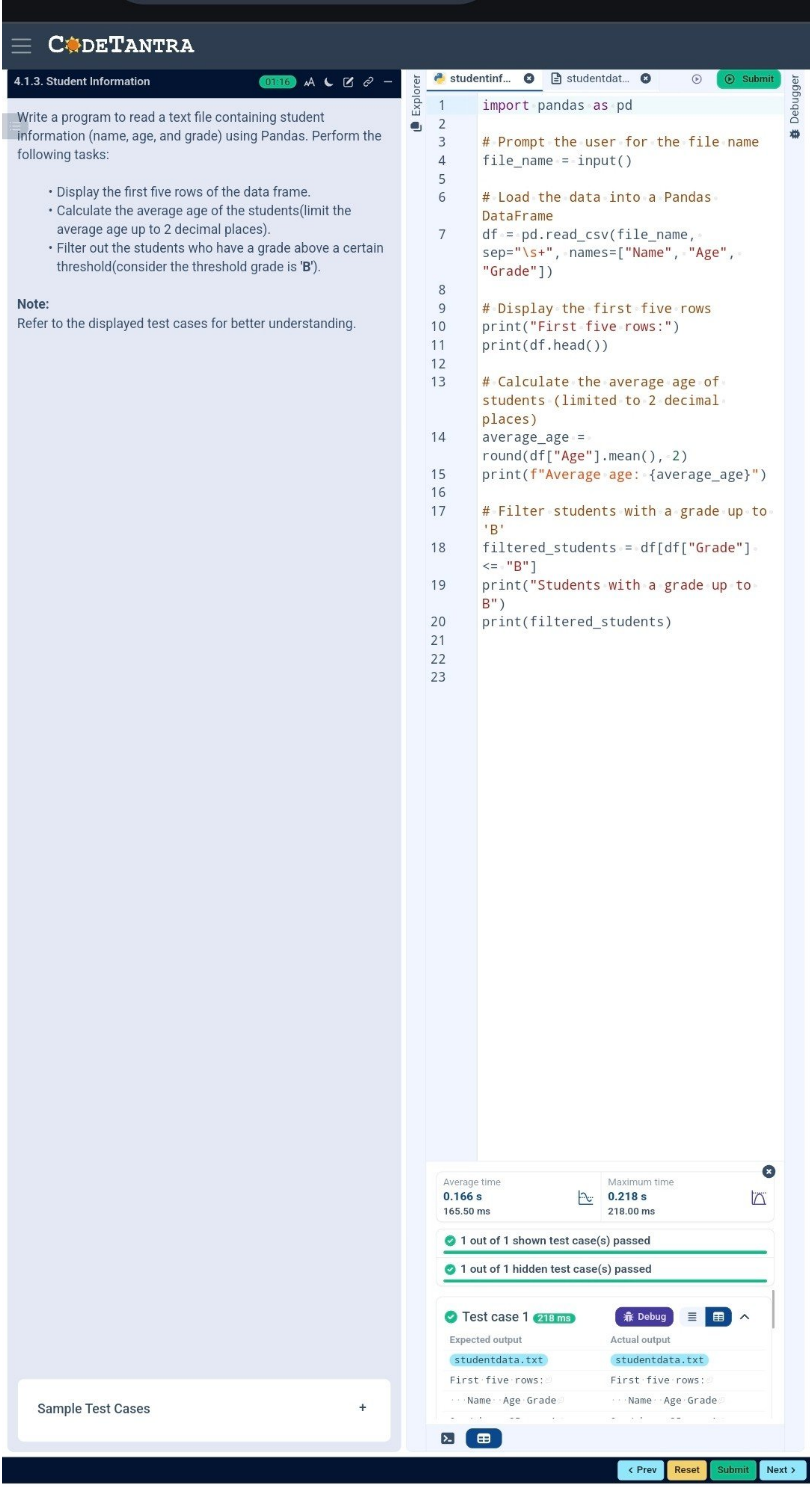
Maximum time
0.436 s
436.00 ms

1 out of 1 shown test case(s) passed

1 out of 1 hidden test case(s) passed

Test case 1 436 ms

Expected output	Actual output
`Original DataFrame:`	`Original DataFrame:`
`      Name  Age`	`      Name  Age`
`0    Alice   25`	`0    Alice   25`



Write a program to read a text file containing student information (name, age, and grade) using Pandas. Perform the following tasks:

- Display the first five rows of the data frame.
- Calculate the average age of the students(limit the average age up to 2 decimal places).
- Filter out the students who have a grade above a certain threshold(consider the threshold grade is '**B**').

Note:
Refer to the displayed test cases for better understanding.

Sample Test Cases +

```python
import pandas as pd

# Prompt the user for the file name
file_name = input()

# Load the data into a Pandas DataFrame
df = pd.read_csv(file_name, sep="\s+", names=["Name", "Age", "Grade"])

# Display the first five rows
print("First five rows:")
print(df.head())

# Calculate the average age of students (limited to 2 decimal places)
average_age = round(df["Age"].mean(), 2)
print(f"Average age: {average_age}")

# Filter students with a grade up to 'B'
filtered_students = df[df["Grade"] <= "B"]
print("Students with a grade up to B")
print(filtered_students)
```

Average time
0.166 s
165.50 ms

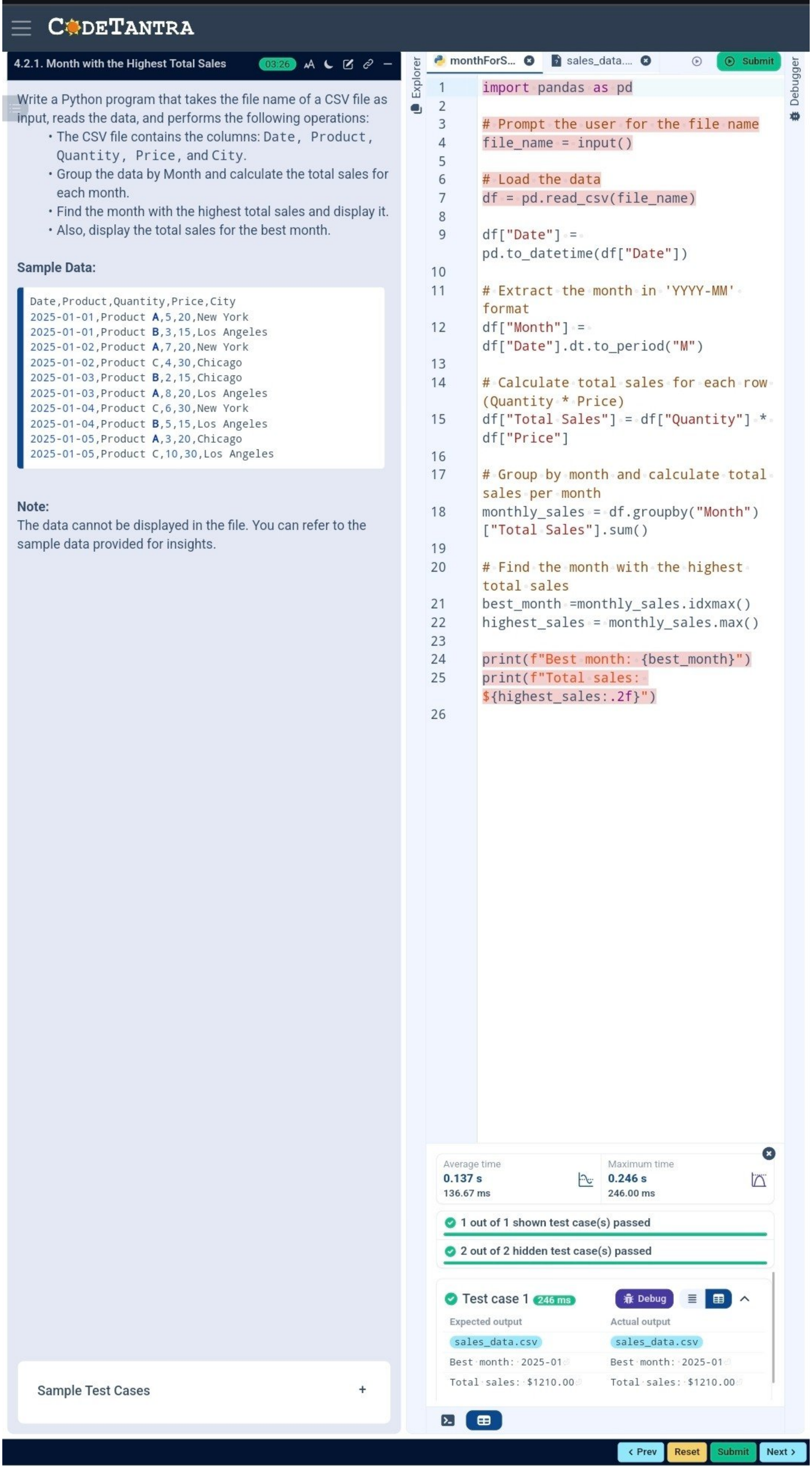
Maximum time
0.218 s
218.00 ms

1 out of 1 shown test case(s) passed

1 out of 1 hidden test case(s) passed

Test case 1 218 ms

Expected output	Actual output
`studentdata.txt`	`studentdata.txt`
`First five rows:`	`First five rows:`
`   Name  Age Grade`	`   Name  Age Grade`


CODETANTRA

4.2.1. Month with the Highest Total Sales 03:26

Write a Python program that takes the file name of a CSV file as input, reads the data, and performs the following operations:

- The CSV file contains the columns: `Date, Product, Quantity, Price`, and `City`.
- Group the data by Month and calculate the total sales for each month.
- Find the month with the highest total sales and display it.
- Also, display the total sales for the best month.

Sample Data:

```
Date,Product,Quantity,Price,City
2025-01-01,Product A,5,20,New York
2025-01-01,Product B,3,15,Los Angeles
2025-01-02,Product A,7,20,New York
2025-01-02,Product C,4,30,Chicago
2025-01-03,Product B,2,15,Chicago
2025-01-03,Product A,8,20,Los Angeles
2025-01-04,Product C,6,30,New York
2025-01-04,Product B,5,15,Los Angeles
2025-01-05,Product A,3,20,Chicago
2025-01-05,Product C,10,30,Los Angeles
```

Note:
The data cannot be displayed in the file. You can refer to the sample data provided for insights.

Sample Test Cases +

monthForS... sales_data.... Submit

```python
import pandas as pd

# Prompt the user for the file name
file_name = input()

# Load the data
df = pd.read_csv(file_name)

df["Date"] = pd.to_datetime(df["Date"])

# Extract the month in 'YYYY-MM' format
df["Month"] = df["Date"].dt.to_period("M")

# Calculate total sales for each row (Quantity * Price)
df["Total Sales"] = df["Quantity"] * df["Price"]

# Group by month and calculate total sales per month
monthly_sales = df.groupby("Month")["Total Sales"].sum()

# Find the month with the highest total sales
best_month =monthly_sales.idxmax()
highest_sales = monthly_sales.max()

print(f"Best month: {best_month}")
print(f"Total sales: ${highest_sales:.2f}")

```

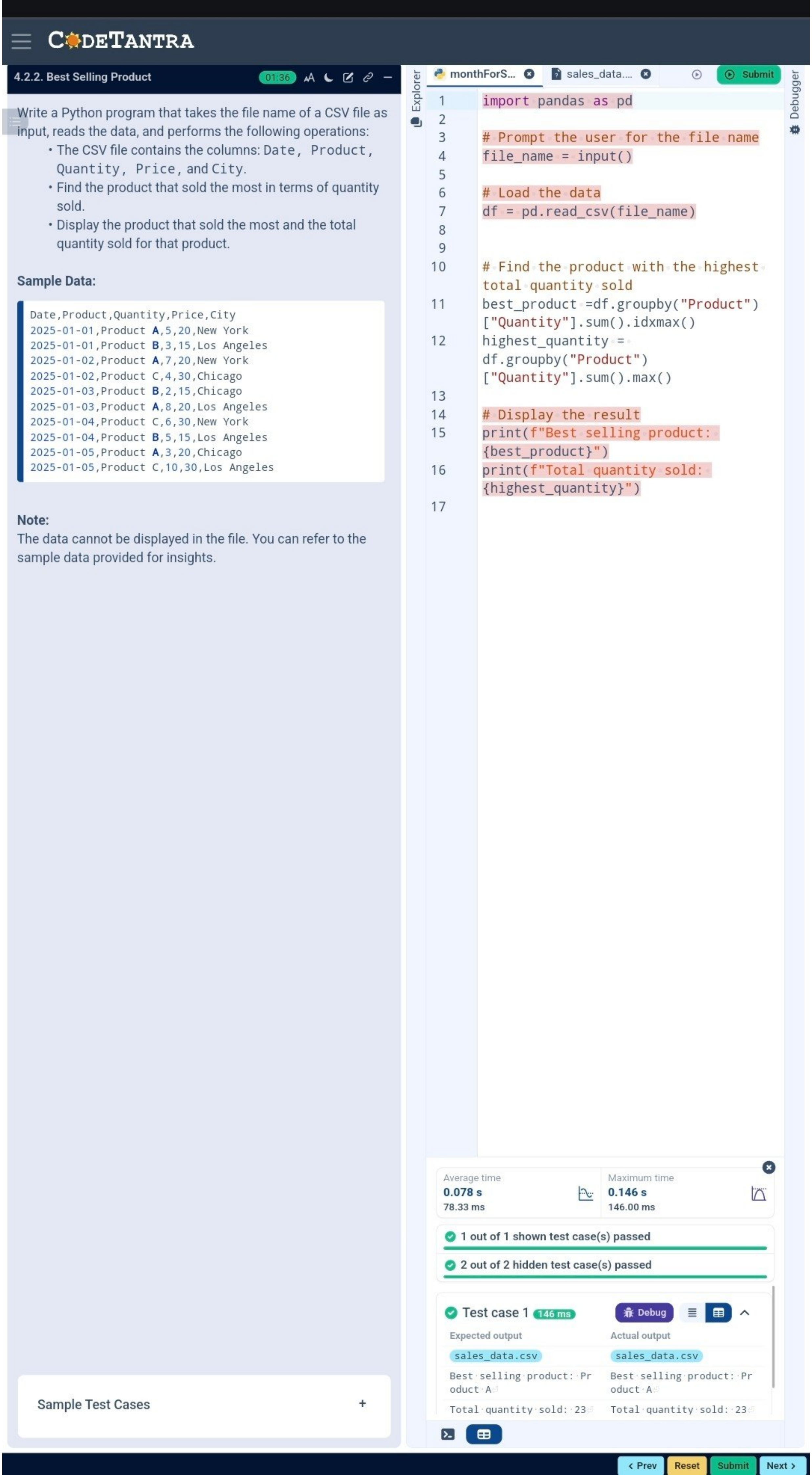
Average time 0.137 s 136.67 ms
Maximum time 0.246 s 246.00 ms

1 out of 1 shown test case(s) passed
2 out of 2 hidden test case(s) passed

Test case 1 246 ms Debug

Expected output	Actual output
sales_data.csv	sales_data.csv
Best month: 2025-01	Best month: 2025-01
Total sales: $1210.00	Total sales: $1210.00

< Prev Reset Submit Next >



4.2.2. Best Selling Product

Write a Python program that takes the file name of a CSV file as input, reads the data, and performs the following operations:

- The CSV file contains the columns: `Date`, `Product`, `Quantity`, `Price`, and `City`.
- Find the product that sold the most in terms of quantity sold.
- Display the product that sold the most and the total quantity sold for that product.

Sample Data:

```
Date,Product,Quantity,Price,City
2025-01-01,Product A,5,20,New York
2025-01-01,Product B,3,15,Los Angeles
2025-01-02,Product A,7,20,New York
2025-01-02,Product C,4,30,Chicago
2025-01-03,Product B,2,15,Chicago
2025-01-03,Product A,8,20,Los Angeles
2025-01-04,Product C,6,30,New York
2025-01-04,Product B,5,15,Los Angeles
2025-01-05,Product A,3,20,Chicago
2025-01-05,Product C,10,30,Los Angeles
```

Note:
The data cannot be displayed in the file. You can refer to the sample data provided for insights.

Sample Test Cases +

```python
import pandas as pd

# Prompt the user for the file name
file_name = input()

# Load the data
df = pd.read_csv(file_name)


# Find the product with the highest total quantity sold
best_product =df.groupby("Product")["Quantity"].sum().idxmax()
highest_quantity = df.groupby("Product")["Quantity"].sum().max()

# Display the result
print(f"Best selling product: {best_product}")
print(f"Total quantity sold: {highest_quantity}")

```

Average time
0.078 s
78.33 ms

Maximum time
0.146 s
146.00 ms

1 out of 1 shown test case(s) passed

2 out of 2 hidden test case(s) passed

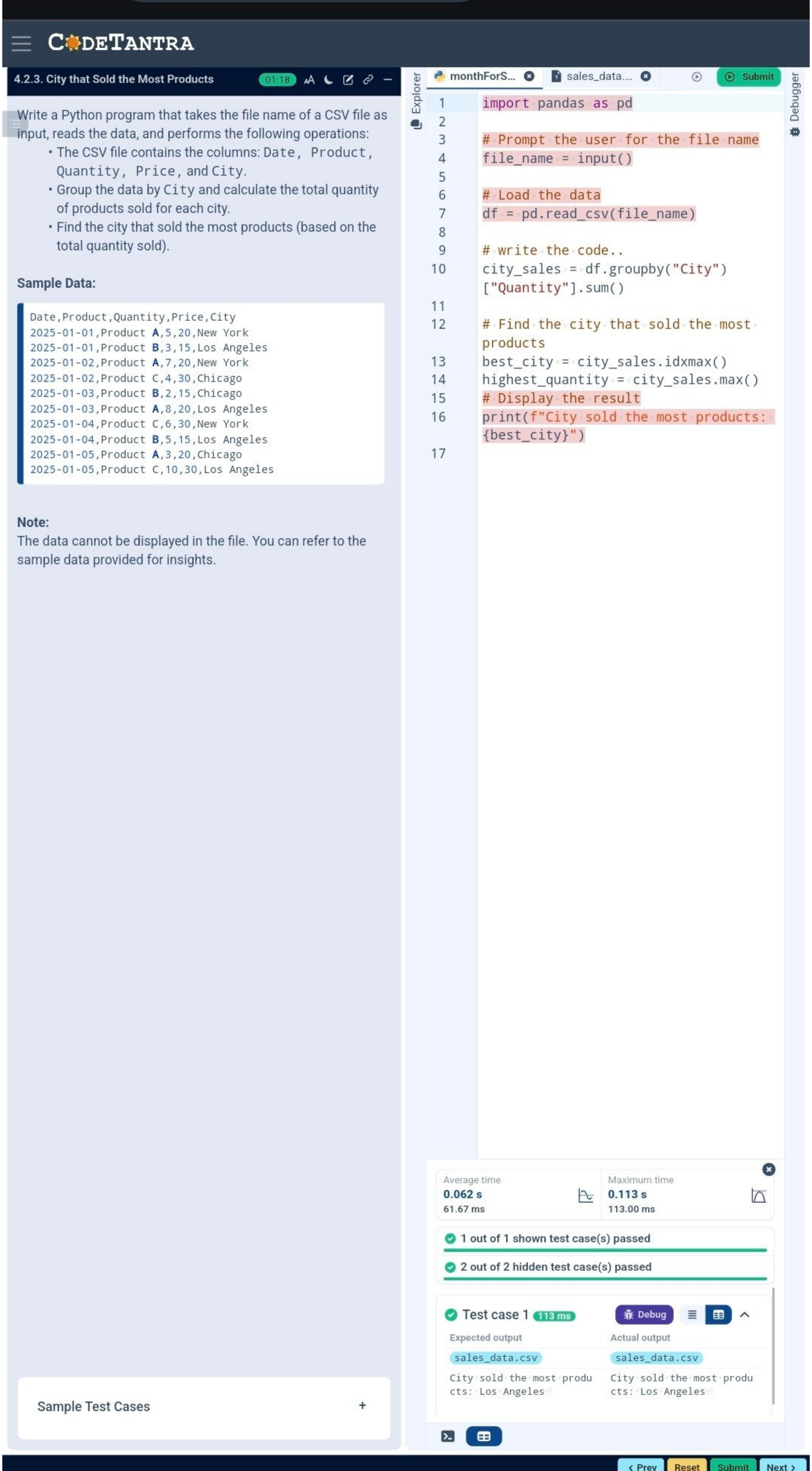
Test case 1 146 ms

Expected output

```
sales_data.csv
Best selling product: Product A
Total quantity sold: 23
```

Actual output

```
sales_data.csv
Best selling product: Product A
Total quantity sold: 23
```



4.2.3. City that Sold the Most Products

Write a Python program that takes the file name of a CSV file as input, reads the data, and performs the following operations:

- The CSV file contains the columns: `Date, Product, Quantity, Price`, and `City`.
- Group the data by `City` and calculate the total quantity of products sold for each city.
- Find the city that sold the most products (based on the total quantity sold).

Sample Data:

```
Date,Product,Quantity,Price,City
2025-01-01,Product A,5,20,New York
2025-01-01,Product B,3,15,Los Angeles
2025-01-02,Product A,7,20,New York
2025-01-02,Product C,4,30,Chicago
2025-01-03,Product B,2,15,Chicago
2025-01-03,Product A,8,20,Los Angeles
2025-01-04,Product C,6,30,New York
2025-01-04,Product B,5,15,Los Angeles
2025-01-05,Product A,3,20,Chicago
2025-01-05,Product C,10,30,Los Angeles
```

Note:
The data cannot be displayed in the file. You can refer to the sample data provided for insights.

Sample Test Cases +

```python
import pandas as pd

# Prompt the user for the file name
file_name = input()

# Load the data
df = pd.read_csv(file_name)

# write the code..
city_sales = df.groupby("City")["Quantity"].sum()

# Find the city that sold the most products
best_city = city_sales.idxmax()
highest_quantity = city_sales.max()
# Display the result
print(f"City sold the most products: {best_city}")

```

Average time
0.062 s
61.67 ms

Maximum time
0.113 s
113.00 ms

1 out of 1 shown test case(s) passed

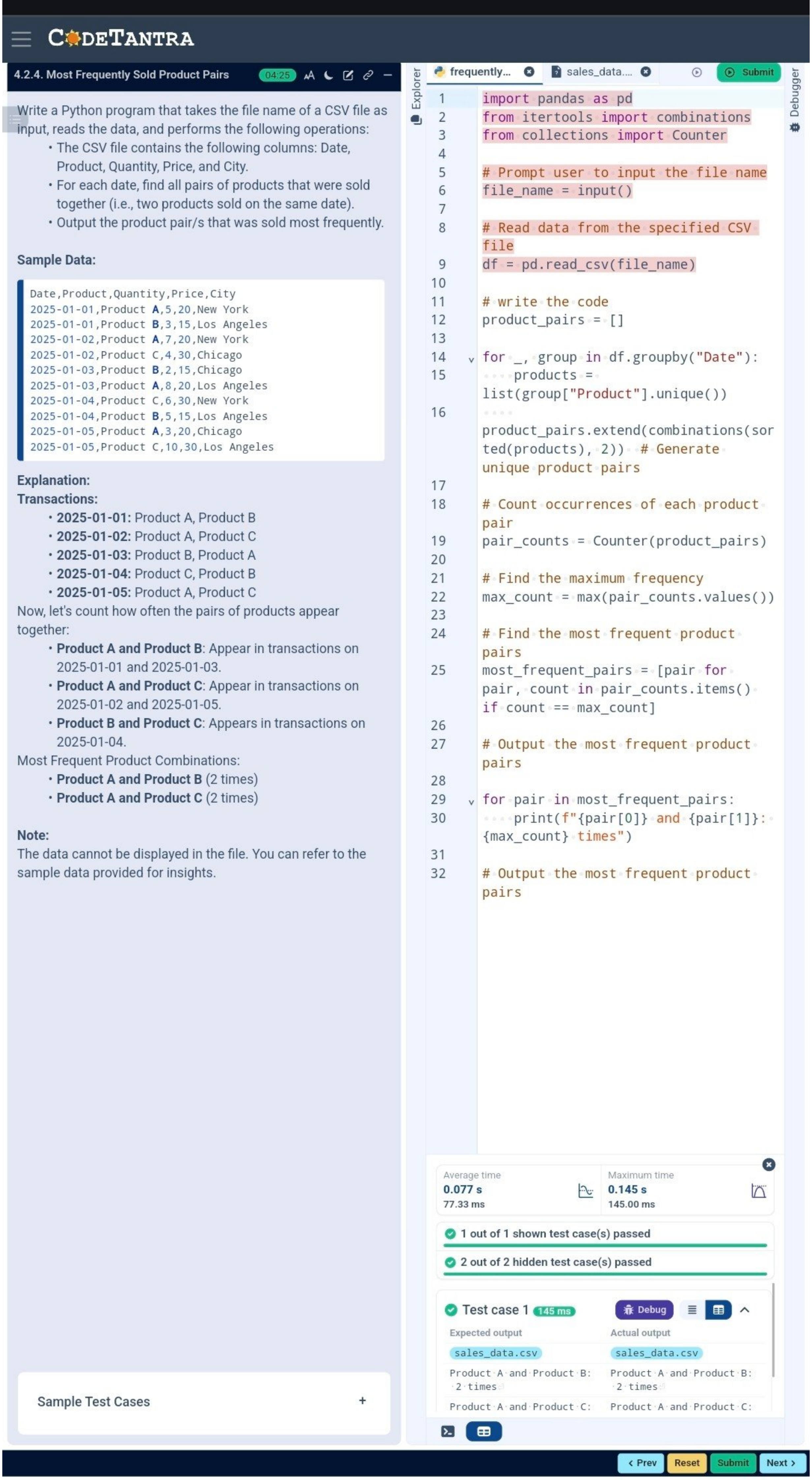
2 out of 2 hidden test case(s) passed

Test case 1 113 ms

Debug

Expected output	Actual output
sales_data.csv	sales_data.csv
City sold the most products: Los Angeles	City sold the most products: Los Angeles

< Prev Reset Submit Next >



4.2.4. Most Frequently Sold Product Pairs

Write a Python program that takes the file name of a CSV file as input, reads the data, and performs the following operations:

- The CSV file contains the following columns: Date, Product, Quantity, Price, and City.
- For each date, find all pairs of products that were sold together (i.e., two products sold on the same date).
- Output the product pair/s that was sold most frequently.

Sample Data:

```
Date,Product,Quantity,Price,City
2025-01-01,Product A,5,20,New York
2025-01-01,Product B,3,15,Los Angeles
2025-01-02,Product A,7,20,New York
2025-01-02,Product C,4,30,Chicago
2025-01-03,Product B,2,15,Chicago
2025-01-03,Product A,8,20,Los Angeles
2025-01-04,Product C,6,30,New York
2025-01-04,Product B,5,15,Los Angeles
2025-01-05,Product A,3,20,Chicago
2025-01-05,Product C,10,30,Los Angeles
```

Explanation:
Transactions:

- **2025-01-01:** Product A, Product B
- **2025-01-02:** Product A, Product C
- **2025-01-03:** Product B, Product A
- **2025-01-04:** Product C, Product B
- **2025-01-05:** Product A, Product C

Now, let's count how often the pairs of products appear together:

- **Product A and Product B**: Appear in transactions on 2025-01-01 and 2025-01-03.
- **Product A and Product C**: Appear in transactions on 2025-01-02 and 2025-01-05.
- **Product B and Product C**: Appears in transactions on 2025-01-04.

Most Frequent Product Combinations:

- **Product A and Product B** (2 times)
- **Product A and Product C** (2 times)

Note:
The data cannot be displayed in the file. You can refer to the sample data provided for insights.

Sample Test Cases +

```python
import pandas as pd
from itertools import combinations
from collections import Counter

# Prompt user to input the file name
file_name = input()

# Read data from the specified CSV file
df = pd.read_csv(file_name)

# write the code
product_pairs = []

for _, group in df.groupby("Date"):
    products = list(group["Product"].unique())
    product_pairs.extend(combinations(sorted(products), 2))  # Generate unique product pairs

# Count occurrences of each product pair
pair_counts = Counter(product_pairs)

# Find the maximum frequency
max_count = max(pair_counts.values())

# Find the most frequent product pairs
most_frequent_pairs = [pair for pair, count in pair_counts.items() if count == max_count]

# Output the most frequent product pairs

for pair in most_frequent_pairs:
    print(f"{pair[0]} and {pair[1]}: {max_count} times")

# Output the most frequent product pairs
```

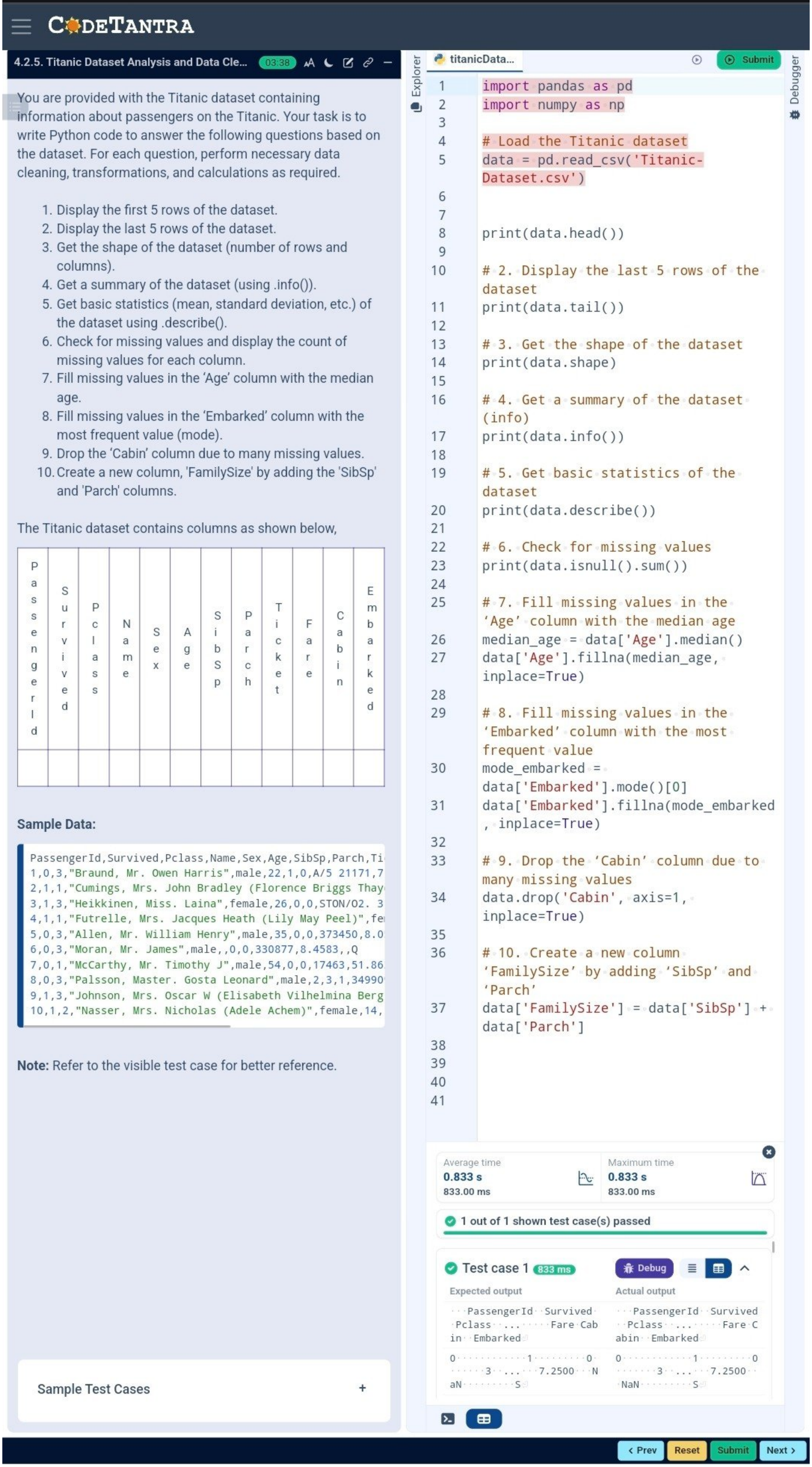
Average time 0.077 s 77.33 ms
Maximum time 0.145 s 145.00 ms

1 out of 1 shown test case(s) passed
2 out of 2 hidden test case(s) passed

Test case 1 145 ms

Expected output
```
sales_data.csv
Product A and Product B: 2 times
Product A and Product C:
```

Actual output
```
sales_data.csv
Product A and Product B: 2 times
Product A and Product C:
```



You are provided with the Titanic dataset containing information about passengers on the Titanic. Your task is to write Python code to answer the following questions based on the dataset. For each question, perform necessary data cleaning, transformations, and calculations as required.

1. Display the first 5 rows of the dataset.
2. Display the last 5 rows of the dataset.
3. Get the shape of the dataset (number of rows and columns).
4. Get a summary of the dataset (using .info()).
5. Get basic statistics (mean, standard deviation, etc.) of the dataset using .describe().
6. Check for missing values and display the count of missing values for each column.
7. Fill missing values in the 'Age' column with the median age.
8. Fill missing values in the 'Embarked' column with the most frequent value (mode).
9. Drop the 'Cabin' column due to many missing values.
10. Create a new column, 'FamilySize' by adding the 'SibSp' and 'Parch' columns.

The Titanic dataset contains columns as shown below,

PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked

Sample Data:

```
PassengerId,Survived,Pclass,Name,Sex,Age,SibSp,Parch,Ti
1,0,3,"Braund, Mr. Owen Harris",male,22,1,0,A/5 21171,7
2,1,1,"Cumings, Mrs. John Bradley (Florence Briggs Thay
3,1,3,"Heikkinen, Miss. Laina",female,26,0,0,STON/O2. 3
4,1,1,"Futrelle, Mrs. Jacques Heath (Lily May Peel)",fe
5,0,3,"Allen, Mr. William Henry",male,35,0,0,373450,8.0
6,0,3,"Moran, Mr. James",male,,0,0,330877,8.4583,,Q
7,0,1,"McCarthy, Mr. Timothy J",male,54,0,0,17463,51.86
8,0,3,"Palsson, Master. Gosta Leonard",male,2,3,1,34990
9,1,3,"Johnson, Mrs. Oscar W (Elisabeth Vilhelmina Berg
10,1,2,"Nasser, Mrs. Nicholas (Adele Achem)",female,14,
```

Note: Refer to the visible test case for better reference.

Sample Test Cases +

```python
import pandas as pd
import numpy as np

# Load the Titanic dataset
data = pd.read_csv('Titanic-Dataset.csv')


print(data.head())

# 2. Display the last 5 rows of the dataset
print(data.tail())

# 3. Get the shape of the dataset
print(data.shape)

# 4. Get a summary of the dataset (info)
print(data.info())

# 5. Get basic statistics of the dataset
print(data.describe())

# 6. Check for missing values
print(data.isnull().sum())

# 7. Fill missing values in the 'Age' column with the median age
median_age = data['Age'].median()
data['Age'].fillna(median_age, inplace=True)

# 8. Fill missing values in the 'Embarked' column with the most frequent value
mode_embarked = data['Embarked'].mode()[0]
data['Embarked'].fillna(mode_embarked, inplace=True)

# 9. Drop the 'Cabin' column due to many missing values
data.drop('Cabin', axis=1, inplace=True)

# 10. Create a new column 'FamilySize' by adding 'SibSp' and 'Parch'
data['FamilySize'] = data['SibSp'] + data['Parch']
```

Average time
0.833 s
833.00 ms

Maximum time
0.833 s
833.00 ms

1 out of 1 shown test case(s) passed

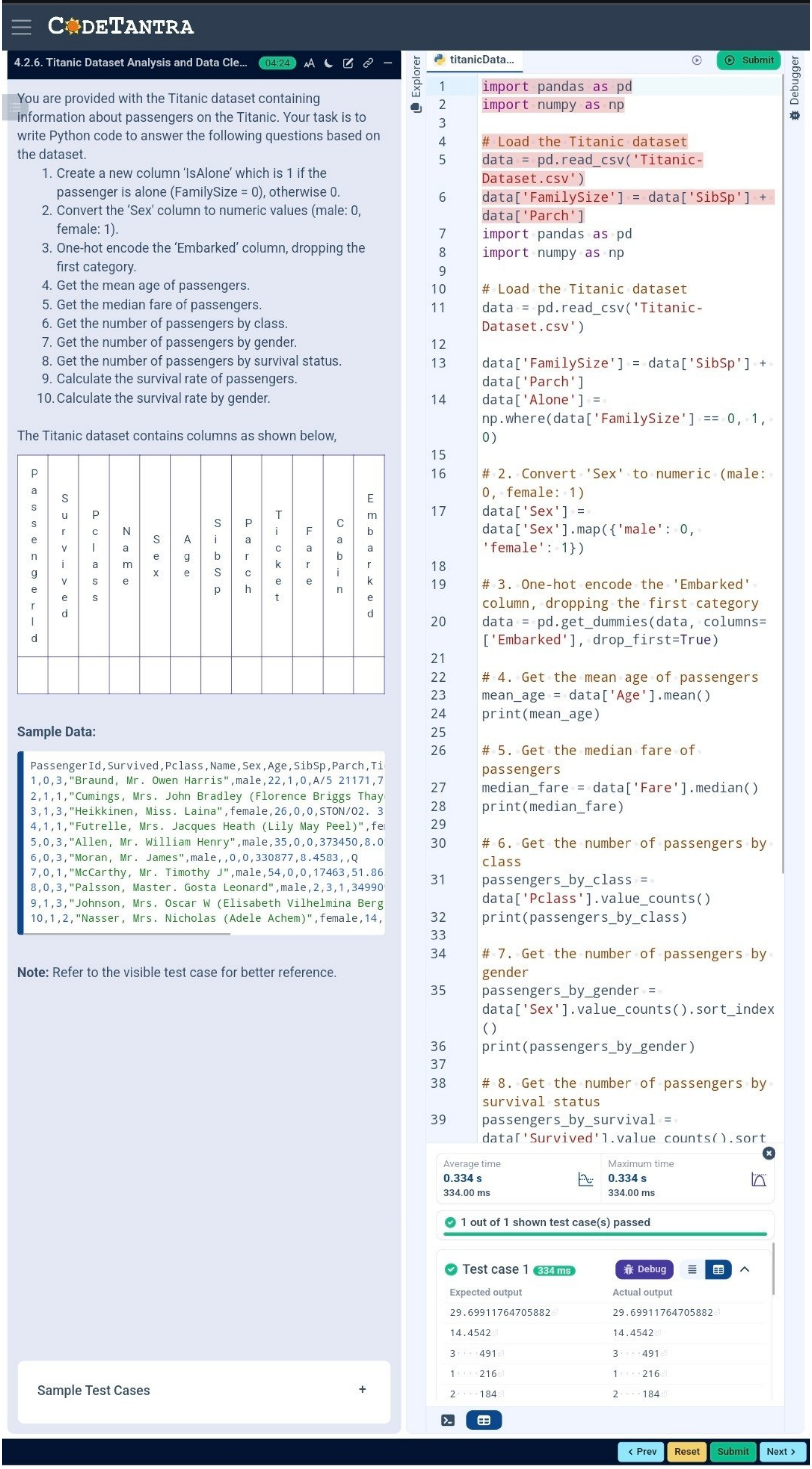
Test case 1 833 ms

Expected output

```
   PassengerId  Survived  Pclass  ...     Fare Cabin  Embarked
0            1         0       3  ...   7.2500   NaN         S
```

Actual output

```
   PassengerId  Survived  Pclass  ...     Fare Cabin  Embarked
0            1         0       3  ...   7.2500   NaN         S
```



4.2.6. Titanic Dataset Analysis and Data Cle... 04:24

You are provided with the Titanic dataset containing information about passengers on the Titanic. Your task is to write Python code to answer the following questions based on the dataset.

1. Create a new column 'IsAlone' which is 1 if the passenger is alone (FamilySize = 0), otherwise 0.
2. Convert the 'Sex' column to numeric values (male: 0, female: 1).
3. One-hot encode the 'Embarked' column, dropping the first category.
4. Get the mean age of passengers.
5. Get the median fare of passengers.
6. Get the number of passengers by class.
7. Get the number of passengers by gender.
8. Get the number of passengers by survival status.
9. Calculate the survival rate of passengers.
10. Calculate the survival rate by gender.

The Titanic dataset contains columns as shown below,

PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked

Sample Data:

```
PassengerId,Survived,Pclass,Name,Sex,Age,SibSp,Parch,Ti
1,0,3,"Braund, Mr. Owen Harris",male,22,1,0,A/5 21171,7
2,1,1,"Cumings, Mrs. John Bradley (Florence Briggs Thay
3,1,3,"Heikkinen, Miss. Laina",female,26,0,0,STON/O2. 3
4,1,1,"Futrelle, Mrs. Jacques Heath (Lily May Peel)",fe
5,0,3,"Allen, Mr. William Henry",male,35,0,0,373450,8.0
6,0,3,"Moran, Mr. James",male,,0,0,330877,8.4583,,Q
7,0,1,"McCarthy, Mr. Timothy J",male,54,0,0,17463,51.86
8,0,3,"Palsson, Master. Gosta Leonard",male,2,3,1,34990
9,1,3,"Johnson, Mrs. Oscar W (Elisabeth Vilhelmina Berg
10,1,2,"Nasser, Mrs. Nicholas (Adele Achem)",female,14,
```

Note: Refer to the visible test case for better reference.

Sample Test Cases +

```python
import pandas as pd
import numpy as np

# Load the Titanic dataset
data = pd.read_csv('Titanic-Dataset.csv')
data['FamilySize'] = data['SibSp'] + data['Parch']
import pandas as pd
import numpy as np

# Load the Titanic dataset
data = pd.read_csv('Titanic-Dataset.csv')

data['FamilySize'] = data['SibSp'] + data['Parch']
data['Alone'] = np.where(data['FamilySize'] == 0, 1, 0)

# 2. Convert 'Sex' to numeric (male: 0, female: 1)
data['Sex'] = data['Sex'].map({'male': 0, 'female': 1})

# 3. One-hot encode the 'Embarked' column, dropping the first category
data = pd.get_dummies(data, columns=['Embarked'], drop_first=True)

# 4. Get the mean age of passengers
mean_age = data['Age'].mean()
print(mean_age)

# 5. Get the median fare of passengers
median_fare = data['Fare'].median()
print(median_fare)

# 6. Get the number of passengers by class
passengers_by_class = data['Pclass'].value_counts()
print(passengers_by_class)

# 7. Get the number of passengers by gender
passengers_by_gender = data['Sex'].value_counts().sort_index()
print(passengers_by_gender)

# 8. Get the number of passengers by survival status
passengers_by_survival = data['Survived'].value_counts().sort
```

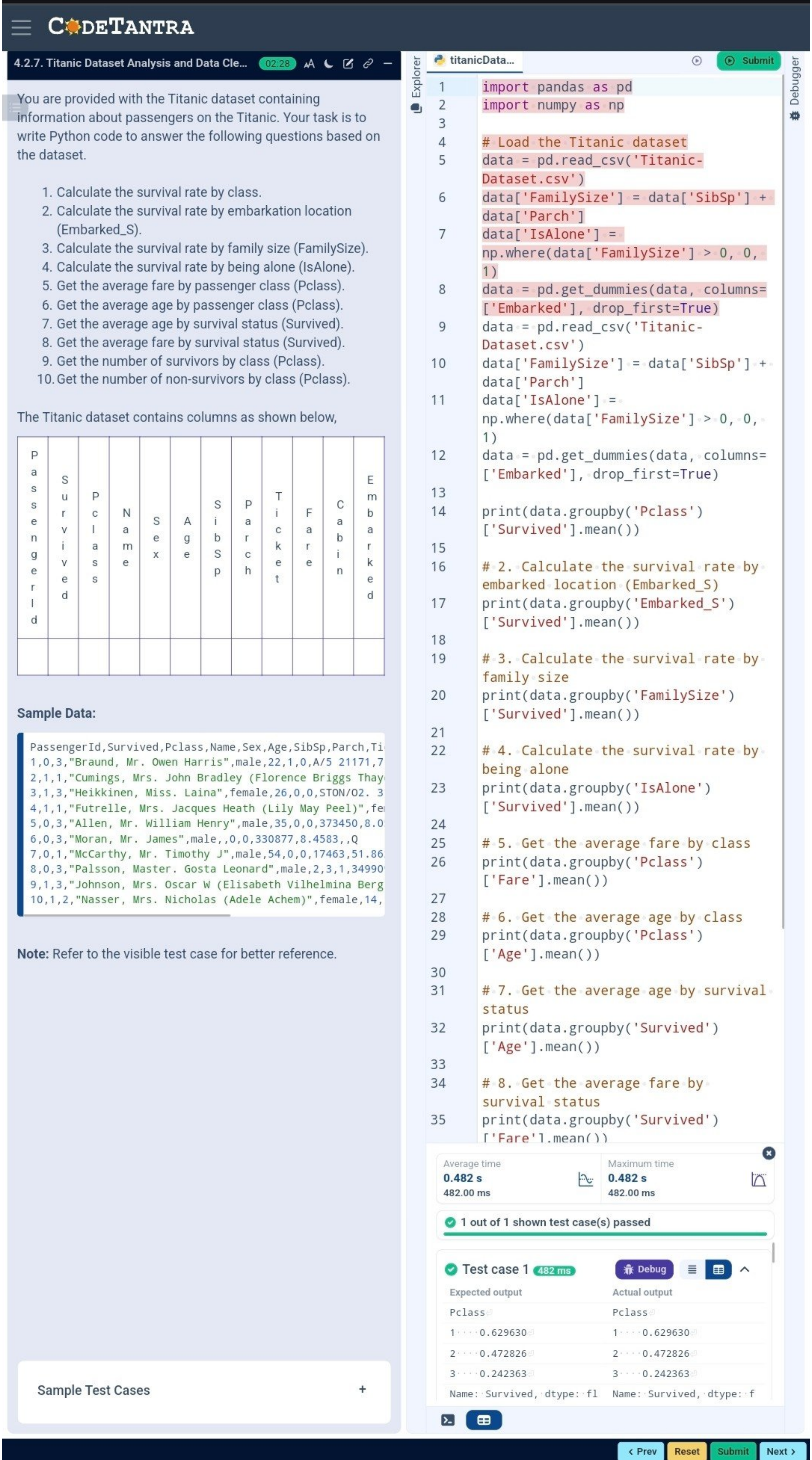
Average time 0.334 s 334.00 ms

Maximum time 0.334 s 334.00 ms

1 out of 1 shown test case(s) passed

Test case 1 334 ms

```
Expected output              Actual output
29.69911764705882            29.69911764705882
14.4542                      14.4542
3    491                     3    491
1    216                     1    216
2    184                     2    184
```



CODETANTRA

4.2.7. Titanic Dataset Analysis and Data Cle... 02:28

You are provided with the Titanic dataset containing information about passengers on the Titanic. Your task is to write Python code to answer the following questions based on the dataset.

1. Calculate the survival rate by class.
2. Calculate the survival rate by embarkation location (Embarked_S).
3. Calculate the survival rate by family size (FamilySize).
4. Calculate the survival rate by being alone (IsAlone).
5. Get the average fare by passenger class (Pclass).
6. Get the average age by passenger class (Pclass).
7. Get the average age by survival status (Survived).
8. Get the average fare by survival status (Survived).
9. Get the number of survivors by class (Pclass).
10. Get the number of non-survivors by class (Pclass).

The Titanic dataset contains columns as shown below,

PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked

Sample Data:

```
PassengerId,Survived,Pclass,Name,Sex,Age,SibSp,Parch,Ti
1,0,3,"Braund, Mr. Owen Harris",male,22,1,0,A/5 21171,7
2,1,1,"Cumings, Mrs. John Bradley (Florence Briggs Thay
3,1,3,"Heikkinen, Miss. Laina",female,26,0,0,STON/O2. 3
4,1,1,"Futrelle, Mrs. Jacques Heath (Lily May Peel)",fe
5,0,3,"Allen, Mr. William Henry",male,35,0,0,373450,8.0
6,0,3,"Moran, Mr. James",male,,0,0,330877,8.4583,,Q
7,0,1,"McCarthy, Mr. Timothy J",male,54,0,0,17463,51.86
8,0,3,"Palsson, Master. Gosta Leonard",male,2,3,1,34990
9,1,3,"Johnson, Mrs. Oscar W (Elisabeth Vilhelmina Berg
10,1,2,"Nasser, Mrs. Nicholas (Adele Achem)",female,14,
```

Note: Refer to the visible test case for better reference.

Sample Test Cases +

titanicData... Submit

```python
import pandas as pd
import numpy as np

# Load the Titanic dataset
data = pd.read_csv('Titanic-Dataset.csv')
data['FamilySize'] = data['SibSp'] + data['Parch']
data['IsAlone'] = np.where(data['FamilySize'] > 0, 0, 1)
data = pd.get_dummies(data, columns=['Embarked'], drop_first=True)
data = pd.read_csv('Titanic-Dataset.csv')
data['FamilySize'] = data['SibSp'] + data['Parch']
data['IsAlone'] = np.where(data['FamilySize'] > 0, 0, 1)
data = pd.get_dummies(data, columns=['Embarked'], drop_first=True)

print(data.groupby('Pclass')['Survived'].mean())

# 2. Calculate the survival rate by embarked location (Embarked_S)
print(data.groupby('Embarked_S')['Survived'].mean())

# 3. Calculate the survival rate by family size
print(data.groupby('FamilySize')['Survived'].mean())

# 4. Calculate the survival rate by being alone
print(data.groupby('IsAlone')['Survived'].mean())

# 5. Get the average fare by class
print(data.groupby('Pclass')['Fare'].mean())

# 6. Get the average age by class
print(data.groupby('Pclass')['Age'].mean())

# 7. Get the average age by survival status
print(data.groupby('Survived')['Age'].mean())

# 8. Get the average fare by survival status
print(data.groupby('Survived')['Fare'].mean())
```

Average time 0.482 s 482.00 ms | Maximum time 0.482 s 482.00 ms

1 out of 1 shown test case(s) passed

Test case 1 482 ms Debug

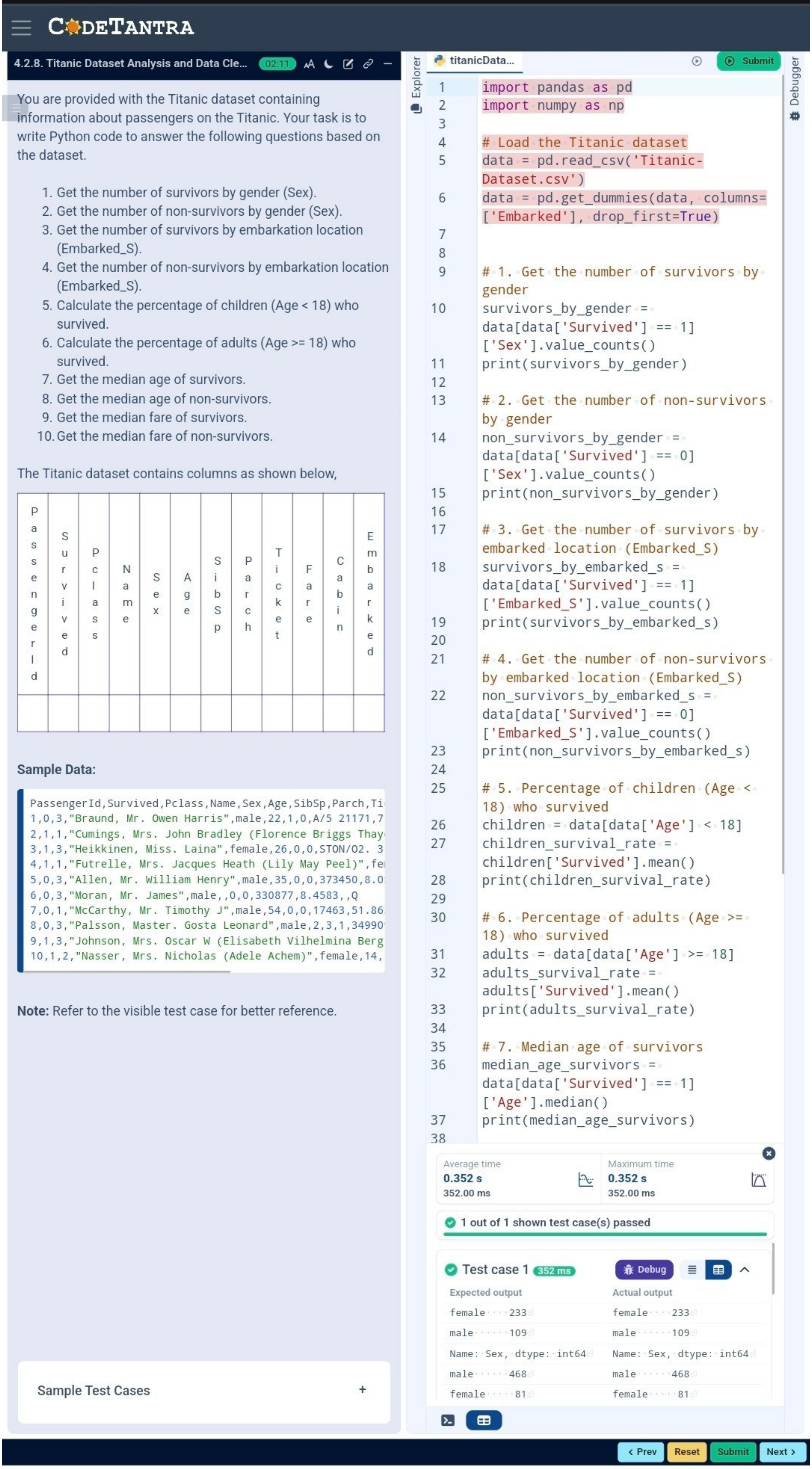
Expected output

```
Pclass
1    0.629630
2    0.472826
3    0.242363
Name: Survived, dtype: fl
```

Actual output

```
Pclass
1    0.629630
2    0.472826
3    0.242363
Name: Survived, dtype: f
```

< Prev Reset Submit Next >



CODETANTRA

4.2.8. Titanic Dataset Analysis and Data Cle... 02:11

You are provided with the Titanic dataset containing information about passengers on the Titanic. Your task is to write Python code to answer the following questions based on the dataset.

1. Get the number of survivors by gender (Sex).
2. Get the number of non-survivors by gender (Sex).
3. Get the number of survivors by embarkation location (Embarked_S).
4. Get the number of non-survivors by embarkation location (Embarked_S).
5. Calculate the percentage of children (Age < 18) who survived.
6. Calculate the percentage of adults (Age >= 18) who survived.
7. Get the median age of survivors.
8. Get the median age of non-survivors.
9. Get the median fare of survivors.
10. Get the median fare of non-survivors.

The Titanic dataset contains columns as shown below,

PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked

Sample Data:

```
PassengerId,Survived,Pclass,Name,Sex,Age,SibSp,Parch,Ti
1,0,3,"Braund, Mr. Owen Harris",male,22,1,0,A/5 21171,7
2,1,1,"Cumings, Mrs. John Bradley (Florence Briggs Thay
3,1,3,"Heikkinen, Miss. Laina",female,26,0,0,STON/O2. 3
4,1,1,"Futrelle, Mrs. Jacques Heath (Lily May Peel)",fe
5,0,3,"Allen, Mr. William Henry",male,35,0,0,373450,8.0
6,0,3,"Moran, Mr. James",male,,0,0,330877,8.4583,,Q
7,0,1,"McCarthy, Mr. Timothy J",male,54,0,0,17463,51.86
8,0,3,"Palsson, Master. Gosta Leonard",male,2,3,1,34990
9,1,3,"Johnson, Mrs. Oscar W (Elisabeth Vilhelmina Berg
10,1,2,"Nasser, Mrs. Nicholas (Adele Achem)",female,14,
```

Note: Refer to the visible test case for better reference.

Sample Test Cases +

titanicData... Submit

```python
import pandas as pd
import numpy as np

# Load the Titanic dataset
data = pd.read_csv('Titanic-Dataset.csv')
data = pd.get_dummies(data, columns=['Embarked'], drop_first=True)


# 1. Get the number of survivors by gender
survivors_by_gender = data[data['Survived'] == 1]['Sex'].value_counts()
print(survivors_by_gender)

# 2. Get the number of non-survivors by gender
non_survivors_by_gender = data[data['Survived'] == 0]['Sex'].value_counts()
print(non_survivors_by_gender)

# 3. Get the number of survivors by embarked location (Embarked_S)
survivors_by_embarked_s = data[data['Survived'] == 1]['Embarked_S'].value_counts()
print(survivors_by_embarked_s)

# 4. Get the number of non-survivors by embarked location (Embarked_S)
non_survivors_by_embarked_s = data[data['Survived'] == 0]['Embarked_S'].value_counts()
print(non_survivors_by_embarked_s)

# 5. Percentage of children (Age < 18) who survived
children = data[data['Age'] < 18]
children_survival_rate = children['Survived'].mean()
print(children_survival_rate)

# 6. Percentage of adults (Age >= 18) who survived
adults = data[data['Age'] >= 18]
adults_survival_rate = adults['Survived'].mean()
print(adults_survival_rate)

# 7. Median age of survivors
median_age_survivors = data[data['Survived'] == 1]['Age'].median()
print(median_age_survivors)

```

Average time
0.352 s
352.00 ms

Maximum time
0.352 s
352.00 ms

1 out of 1 shown test case(s) passed

Test case 1 352 ms

Expected output

```
female    233
male      109
Name: Sex, dtype: int64
male      468
female     81
```

Actual output

```
female    233
male      109
Name: Sex, dtype: int64
male      468
female     81
```

< Prev Reset Submit Next >