

Java Class : public class TuitionGuiController{}

Test Case #	Requirement	Test Description and Input Data	Expected Result
1	Should not add student if there is no name	Click "Add Student" button with the Student Name field left blank	"Please enter a student name."
2	Should not add student if there is a name, but no major	Click "Add Student" button with a name filled out, but no major selected	"All students must declare a major."
3	Should not add student if there is a name and major, but no residency status selected	Click "Add Student" button with a name filled out and a major selected, but with no residency status selected.	"Please declare residency status of a student."
4	Should not add international student if Study Abroad is selected and credits are greater than 12.	Attempt to add student with Name, Major, Non-Resident, International selected, and study abroad selected; set credit hours to 13	"Credit hours exceed the maximum for student in the study abroad program."
5	<u>Should</u> add international student if	Click "Add Student" with valid Name,	"Student added."

	Study Abroad is selected and credits are 12.	Major, and Residency Status, but with credit hours set to 12.	
6	Should not add student if credits are negative	Click "Add Student" with valid Name, Major, and Residency Status, but with credit hours set to -1.	"Credit hours cannot be negative."
7	Should not add student if credits are less than 3	Click "Add Student" with valid Name, Major, and Residency Status, but with credit hours set to 2.	"Minimum credit hours is 3."
8	<u>Should</u> add student if credits are 3	Click "Add Student" with valid Name, Major, and Residency Status, but with credit hours set to 3.	"Student added."

9	Should not add student if credits are greater than 24.	Click "Add Student" with valid Name, Major, and Residency Status, but with credit hours set to 25.	"Credit hours exceed the maximum 24."
10	<u>Should</u> add student if credits are 24	Click "Add Student" with valid Name, Major, and Residency Status, but with credit hours set to 24.	"Student added."
11	Should not add student if credit hours are non numeric	Click "Add Student" with valid Name, Major, and Residency Status, but with credit hours set to non numeric characters.	"Number of credits entered incorrectly."
12	Should not add student if student with same name and major is already present in the roster	Click "Add Student" with all valid parameters twice.	"Student Added. Student is already in the roster."

13	Should add student if student with same name but different major is in the roster	Click "Add Student" with all valid parameters once, change the major, and then click "Add Student" once more.	"Student added. Student added."
14	Should add student if student with same major but different name is in the roster	Click "Add Student" with all valid parameters once, change the name to another valid name, and then click "Add Student" once more.	"Student added. Student added."
15	Should not calculate tuition due for a student if student name is not present	Click "Tuition Due" with no fields populated.	"Please enter a student name."
16	Should not calculate tuition due for a student if student name is present and valid, but no major is present.	Click "Tuition Due" with valid student name, but no major selected.	"Enter students major."

17	Should not calculate tuition due for a student that is not present in the roster	Click "Tuition Due" with a valid student name and major, but of a student that is not present in the roster	"Student is not in the roster."
18	Should not execute delete if no name or major is present	Click "Remove Student" with all fields blank.	"Student is not in the roster."
19	Should not execute delete if valid name is present, but no major.	Click "Remove Student" with valid name entered, but no major selected.	"Enter students major."
20	Should not execute delete if valid name and major are present, but student is not present in the roster.	Click "Remove Student" with valid name and major entered of a student that is not present in the roster.	"Student is not in the roster."

21	Should return an error if tuition is attempted to be paid before a student is found	Click "Pay Tuition" with all fields blank.	"Please find student first."
22	Should return an error if student is searched for but name field is left blank	Click "Pay Tuition" with a valid student name in the name field	"Please enter a student name."
23	Should return an error if student is searched for, but student is not present in roster	Click "Pay Tuition" after selecting a valid student name and major that is not present in the roster	"Student not found."
24	If student is found, and is a resident, option to apply financial aid should appear	Add a resident student to the roster, enter students name and major into the Payments/Financial Aid tab, and click Find	"Student Found: (Student Information)" Financial Aid Text box appears

25	Negative financial aid should not be applied	Enter a negative number into the financial aid field of a found resident student and then click Pay Financial Aid	"Invalid amount. for: (Student Information)"
26	Non numeric financial aid should not be accepted input	Enter a non numeric into the financial aid field of a found resident student and then click Pay Financial Aid	"Invalid financial aid amount entered."
27	Financial aid greater than 10000 should not be applied	Enter 10001 into the financial aid field of a found resident student with tuition due greater than 10000 and then click Pay Financial Aid	"Invalid amount. for: (Student Information)"
28	Financial aid of 10000 should be applied	Enter 10000 into the financial aid field of a found resident student with tuition due greater than or equal to 10000 and then click Pay Financial Aid	"Tuition updated. for: (Student Information)"

29	Financial aid greater than tuition due should not be applied	Pay tuition of resident student until it is less than 10,000, then attempt to pay a value one greater than the tuition due using Pay Financial Aid	"Invalid amount. for: (Student Information)"
30	If date selected is in the future for a tuition payment, return an error.	Pay a valid tuition amount for a student in the roster, but make the payment date tomorrow	"Invalid payment date. for: (Student information)"
31	If date payment date is before 2021, return an error	Pay a valid tuition amount for a student in the roster, but make the payment date a date in 2020	"Invalid payment date. for: (Student information)"
32	If payment date is in 2021 and not in the future, and payment amount is valid, payment should be applied if student is found first	Pay a valid tuition amount for a student in the roster, make the payment date today	"Payment applied. for: (Student information)"



33	Should return error if negative tuition payment is attempted	Pay a negative amount for a student in the roster, make the payment date today	"Invalid amount. for: (Student Information)"
34	Should return error if non numeric tuition payment is attempted	Pay a non numeric amount for a student in the roster, make the payment date today	"Invalid payment amount entered."
35	Should return error if payment value greater than tuition due is attempted to be paid	Pay a value equal to the student's tuition due plus one for a student in the roster, make the payment date today	"Amount is greater than amount due. for: (Student Information)"
36	Should pay tuition if payment value is equal to the tuition due	Pay a value equal to the student's tuition due for a student in the roster, make the payment date today	"Payment applied. for: (Student information)"

37	Change SAS Status button should appear if international student is found	Use find button with information of international student present in roster	"Student found: (Student information)" Change SAS status appears
38	If international student is found, and SAS status is true by default, SAS button should be selected already	Use find button with information of international student with SAS status set to true that is present in roster	"Student found: (student information)" Change SAS Status button is greyed out
39	If international student is found, and SAS status is false by default, SAS button should not be selected already	Use find button with information of international student with SAS status set to false that is present in roster	"Student found: (student information)" Change SAS Status button is not greyed out
40	Tuition due should change to reflect difference in payment for SAS and non SAS international students	Change SAS status of a found international student using Change SAS Status button	Tuition is reduced when SAS is true, and regular when SAS is false

41	Student tuition should not be calculated if roster is empty	Select "Calculate Tuition Due For All Students" with an empty roster	"Student roster is empty!"
42	All print buttons should return an error if Student Roster is empty	Select each print button once	"Student roster is empty!Student roster is empty!Student roster is empty!"
43	List of students ordered by payment date should be empty if no students have made any payments yet	Add students to roster without making tuition payments, select print roster by last payment date	"* list of students made payments ordered by payment date ** ** end of roster ** "
44	List of students ordered by payment date should only include students who have a last payment date	Add several students to roster, make tuition payments for only some of the students	List of students in roster who have made payments, sorted by last payment date

45	Removed students should not longer appear in printed out roster	Add some students to the roster, print them out in anyway, remove one of the students, print them out again in the same method	List of all of the students, and then a list of all of the students except the one that was removed
46	When no payment date is entered, date should be set to today's date	Add a valid student and calculate their tuition, pay off a valid amount of the tuition without entering a date	"Payment Applied for: (Student Information)" Last payment date should be current date

## TEST CASES :

Add Student with no name  
 Add Student with only name "Harry",  
 Add Student with only name "Harry" and "CS" major selected  
 Add Student with name "Harry", "CS" major, "Resident" resident status with -1 credits  
 Add Student with name "Harry", "CS" major, "Resident" resident status with 2 credits  
 Add Student with name "Harry", "CS" major, "Resident" resident status with "Hello" credits  
 Add Student with name "Harry", "CS" major, "Resident" resident status with 25 credits  
 Add Student with name "Harry", "CS" major, "Resident" resident status with 3 credits  
 Add Student with name "Bobby", "EE" major, "Resident" resident status with 24 credits  
 Print Roster By Name  
 Add Student with name "Bobby", "EE" major, "Non-Resident" resident status with 24 credits  
 Add Student with name "Jimmy", "EE" major, "Non-Resident" resident status with 24 credits

Add Student with name "Jimmy", "EE" major, "Non-Resident"  
resident status with 24 credits  
Print Roster By Name  
Tuition Due with no Name  
Tuition Due with name "Sarah"  
Tuition Due with name "Bobby" and major "BA"  
Tuition Due with name "Bobby" and major "ME"  
Tuition Due with name "Bobby" and major "EE"  
Print Roster By Name  
Print Roster by Last Payment Date  
Enter name "Mark" for student name in second pane and click Find  
button  
Enter name "Mark" for student name and major "CS" and click Find  
button  
Enter name "Bobby" for student name and major "EE" and click  
Find button  
Click Pay Tuition Button  
Enter 1000 into Pay Tuition field without adding a date and  
click Pay Tuition  
Enter 1000 into Pay Tuition field with the date of tomorrow and  
click Pay Tuition  
Enter 1000 into Pay Tuition field with the date of 11/2/2020 and  
click Pay Tuition  
Enter 18037 into Pay Tuition field with the date of 11/2/2020  
and click Pay Tuition  
Enter 18037 into Pay Tuition field with the date of 11/2/2020  
and click Pay Tuition  
Enter 18037 into Pay Tuition field with today's date and click  
Pay Tuition  
Enter -1 into Pay Tuition field with the date of 11/1/2021 and  
click Pay Tuition  
Enter "Hello" into Pay Tuition field with the date of 11/1/2021  
and click Pay Tuition  
Click Pay Financial Aid button  
Enter "Hello" into Financial Aid field and then Click Pay  
Financial Aid Button  
Enter -1 into Financial Aid field and then Click Pay Financial  
Aid Button  
Enter 10001 into Financial Aid field and then Click Pay  
Financial Aid Button

Enter 0 into Financial Aid field and then Click Pay Financial Aid Button  
Enter 1000 into Financial Aid field and then Click Pay Financial Aid Button  
Enter 0 into Financial Aid field and then Click Pay Financial Aid Button  
Enter 10,000 into Pay Tuition Field and Click Pay Tuition  
Enter 9,000 into Pay Financial Aid field and Click Pay Financial Aid  
Print Roster by Name  
Calculate Tuition Due For All Students  
Print Roster by Name  
Print Roster by Last Payment Date  
Print Roster(Current Order)  
Add TriState student from NY with 12 Credits Named "Chloe" with "IT" Major  
Add TriState student from NY with 12 Credits Named "Chloe" with "BA" Major  
Print Roster by Name  
Remove student with name "Jeff" and major "IT"  
Remove student with name "Chloe" and major "IT"  
Printer Roster by Name  
Find student named "Chloe" with major "BA"  
Click "Pay Tuition" with yesterday's date and \$10,000  
Find student named "Harry" with major "CS"  
Click "Pay Tuition" with date two days ago and \$1,000  
Print Roster by Name  
Print Roster by Last Payment Date  
Print Roster (Current Order)  
Remove "Bobby" EE  
Remove "Chloe" BA  
Remove "Harry" CS  
Remove "Jimmy" EE  
Add "Kevin"; EE; 11 Credit Hours; International; Study Abroad True  
Add "Kevin"; EE; 25 Credit Hours; International; Study Abroad True  
Add "Kevin"; EE; 12 Credit Hours; International; Study Abroad True  
Add "Clyde"; EE; 12 Credit Hours; International; Study Abroad False

```
Calculate Tuition For All Students
Print Roster By Name
Find "Kevin" EE
De-Select "Change SAS Status"
Find "Clyde" EE
Select "Change SAS Status"
```

## Output:

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Please enter a student name.
All students must declare a major.
Please declare residency status of student.
Credit hours cannot be negative.
Minimum credit hours is 3.
Number of credits entered incorrectly.
Credit hours exceed the maximum 24.
Student added.
Student added.
* list of students ordered by name **
Bobby:EE:24 credit hours:tuition due:0.00:total
payment:0.00:last payment date: --/--/--:resident
Harry:CS:3 credit hours:tuition due:0.00:total payment:0.00:last
payment date: --/--/--:resident
** end of roster **
Student is already in the roster.
Student added.
Student is already in the roster.
* list of students ordered by name **
Bobby:EE:24 credit hours:tuition due:0.00:total
payment:0.00:last payment date: --/--/--:resident
Harry:CS:3 credit hours:tuition due:0.00:total payment:0.00:last
payment date: --/--/--:resident
Jimmy:EE:24 credit hours:tuition due:0.00:total
payment:0.00:last payment date: --/--/--:non-resident
** end of roster **
Please enter a student name.
Student is not in the roster.
Student is not in the roster.
Student is not in the roster.
```

Tuition due for Bobby (EE) : \$19,036.00  
\* list of students ordered by name \*\*  
Bobby:EE:24 credit hours:tuition due:19,036.00:total  
payment:0.00:last payment date: --/--/--:resident  
Harry:CS:3 credit hours:tuition due:0.00:total payment:0.00:last  
payment date: --/--/--:resident  
Jimmy:EE:24 credit hours:tuition due:0.00:total  
payment:0.00:last payment date: --/--/--:non-resident  
\*\* end of roster \*\*  
\* list of students made payments ordered by payment date \*\*  
\*\* end of roster \*\*  
Please specify student major.  
Student not found.  
Student found: Bobby:EE:24 credit hours:tuition  
due:19,036.00:total payment:0.00:last payment date:  
--/--/--:resident  
Invalid payment amount entered.  
Payment applied.  
for:Bobby:EE:24 credit hours:tuition due:18,036.00:total  
payment:1,000.00:last payment date: 11/1/2021:resident  
Invalid payment date.  
for:Bobby:EE:24 credit hours:tuition due:18,036.00:total  
payment:1,000.00:last payment date: 11/1/2021:resident  
Invalid payment date.  
for:Bobby:EE:24 credit hours:tuition due:18,036.00:total  
payment:1,000.00:last payment date: 11/1/2021:resident  
Invalid payment date.  
for:Bobby:EE:24 credit hours:tuition due:18,036.00:total  
payment:1,000.00:last payment date: 11/1/2021:resident  
Invalid payment date.  
for:Bobby:EE:24 credit hours:tuition due:18,036.00:total  
payment:1,000.00:last payment date: 11/1/2021:resident  
Amount is greater than amount due.  
for:Bobby:EE:24 credit hours:tuition due:18,036.00:total  
payment:1,000.00:last payment date: 11/1/2021:resident  
Invalid amount.  
for:Bobby:EE:24 credit hours:tuition due:18,036.00:total  
payment:1,000.00:last payment date: 11/1/2021:resident  
Invalid payment amount entered.  
Invalid financial aid amount entered.  
Invalid financial aid amount entered.



Invalid amount.

for:Bobby:EE:24 credit hours:tuition due:18,036.00:total  
payment:1,000.00:last payment date: 11/1/2021:resident

Invalid amount.

for:Bobby:EE:24 credit hours:tuition due:18,036.00:total  
payment:1,000.00:last payment date: 11/1/2021:resident

Tuition updated.

for:Bobby:EE:24 credit hours:tuition due:18,036.00:total  
payment:1,000.00:last payment date: 11/1/2021:resident

Tuition updated.

for:Bobby:EE:24 credit hours:tuition due:17,036.00:total  
payment:1,000.00:last payment date: 11/1/2021:resident

Tuition updated.

for:Bobby:EE:24 credit hours:tuition due:18,036.00:total  
payment:1,000.00:last payment date: 11/1/2021:resident

Payment applied.

for:Bobby:EE:24 credit hours:tuition due:8,036.00:total  
payment:11,000.00:last payment date: 11/1/2021:resident

Invalid amount.

for:Bobby:EE:24 credit hours:tuition due:8,036.00:total  
payment:11,000.00:last payment date: 11/1/2021:resident

\* list of students ordered by name \*\*

Bobby:EE:24 credit hours:tuition due:8,036.00:total  
payment:11,000.00:last payment date: 11/1/2021:resident

Harry:CS:3 credit hours:tuition due:0.00:total payment:0.00:last  
payment date: --/--/--:resident

Jimmy:EE:24 credit hours:tuition due:0.00:total  
payment:0.00:last payment date: --/--/--:non-resident

\*\* end of roster \*\*

Calculation completed.

\* list of students ordered by name \*\*

Bobby:EE:24 credit hours:tuition due:8,036.00:total  
payment:11,000.00:last payment date: 11/1/2021:resident

Harry:CS:3 credit hours:tuition due:3,826.40:total  
payment:0.00:last payment date: --/--/--:resident

Jimmy:EE:24 credit hours:tuition due:40,733.00:total  
payment:0.00:last payment date: --/--/--:non-resident

\*\* end of roster \*\*

\* list of students made payments ordered by payment date \*\*

Bobby:EE:24 credit hours:tuition due:8,036.00:total  
payment:11,000.00:last payment date: 11/1/2021:resident

```

** end of roster **
* list of students in the roster **
Harry:CS:3 credit hours:tuition due:3,826.40:total
payment:0.00:last payment date: --/--/--:resident
Jimmy:EE:24 credit hours:tuition due:40,733.00:total
payment:0.00:last payment date: --/--/--:non-resident
Bobby:EE:24 credit hours:tuition due:8,036.00:total
payment:11,000.00:last payment date: 11/1/2021:resident
** end of roster **
Student added.
Student added.
* list of students ordered by name **
Bobby:EE:24 credit hours:tuition due:8,036.00:total
payment:11,000.00:last payment date: 11/1/2021:resident
Chloe:IT:12 credit hours:tuition due:0.00:total
payment:0.00:last payment date:
--/--/--:non-resident(tri-state):NY
Chloe:BA:12 credit hours:tuition due:0.00:total
payment:0.00:last payment date:
--/--/--:non-resident(tri-state):NY
Harry:CS:3 credit hours:tuition due:3,826.40:total
payment:0.00:last payment date: --/--/--:resident
Jimmy:EE:24 credit hours:tuition due:40,733.00:total
payment:0.00:last payment date: --/--/--:non-resident
** end of roster **
Student is not in the roster.
Student removed from the roster.
* list of students ordered by name **
Bobby:EE:24 credit hours:tuition due:8,036.00:total
payment:11,000.00:last payment date: 11/1/2021:resident
Chloe:BA:12 credit hours:tuition due:0.00:total
payment:0.00:last payment date:
--/--/--:non-resident(tri-state):NY
Harry:CS:3 credit hours:tuition due:3,826.40:total
payment:0.00:last payment date: --/--/--:resident
Jimmy:EE:24 credit hours:tuition due:40,733.00:total
payment:0.00:last payment date: --/--/--:non-resident
** end of roster **
Student found: Chloe:BA:12 credit hours:tuition
due:29,005.00:total payment:0.00:last payment date:
--/--/--:non-resident(tri-state):NY

```

Payment applied.

for:Chloe:BA:12 credit hours:tuition due:19,005.00:total  
payment:10,000.00:last payment date:

10/31/2021:non-resident(tri-state):NY

Student found: Harry:CS:3 credit hours:tuition

due:3,826.40:total payment:0.00:last payment date:

--/--/--:resident

Payment applied.

for:Harry:CS:3 credit hours:tuition due:2,826.40:total  
payment:1,000.00:last payment date: 10/30/2021:resident

\* list of students ordered by name \*\*

Bobby:EE:24 credit hours:tuition due:8,036.00:total

payment:11,000.00:last payment date: 11/1/2021:resident

Chloe:BA:12 credit hours:tuition due:19,005.00:total

payment:10,000.00:last payment date:

10/31/2021:non-resident(tri-state):NY

Harry:CS:3 credit hours:tuition due:2,826.40:total

payment:1,000.00:last payment date: 10/30/2021:resident

Jimmy:EE:24 credit hours:tuition due:40,733.00:total

payment:0.00:last payment date: --/--/--:non-resident

\*\* end of roster \*\*

\* list of students made payments ordered by payment date \*\*

Harry:CS:3 credit hours:tuition due:2,826.40:total

payment:1,000.00:last payment date: 10/30/2021:resident

Chloe:BA:12 credit hours:tuition due:19,005.00:total

payment:10,000.00:last payment date:

10/31/2021:non-resident(tri-state):NY

Bobby:EE:24 credit hours:tuition due:8,036.00:total

payment:11,000.00:last payment date: 11/1/2021:resident

\*\* end of roster \*\*

\* list of students in the roster \*\*

Jimmy:EE:24 credit hours:tuition due:40,733.00:total

payment:0.00:last payment date: --/--/--:non-resident

Harry:CS:3 credit hours:tuition due:2,826.40:total

payment:1,000.00:last payment date: 10/30/2021:resident

Chloe:BA:12 credit hours:tuition due:19,005.00:total

payment:10,000.00:last payment date:

10/31/2021:non-resident(tri-state):NY

Bobby:EE:24 credit hours:tuition due:8,036.00:total

payment:11,000.00:last payment date: 11/1/2021:resident

Jimmy:EE:24 credit hours:tuition due:40,733.00:total  
payment:0.00:last payment date: --/--/--:non-resident  
\*\* end of roster \*\*  
Student removed from the roster.  
Student removed from the roster.  
Student removed from the roster.  
Student removed from the roster.  
International students must enroll at least 12 credits.  
Credit hours exceed the maximum 24.  
Student added.  
Student added.  
Calculation completed.  
\* list of students ordered by name \*\*  
Clyde:EE:12 credit hours:tuition due:35,655.00:total  
payment:0.00:last payment date:  
--/--/--:non-resident:international  
Kevin:EE:12 credit hours:tuition due:5,918.00:total  
payment:0.00:last payment date:  
--/--/--:non-resident:international:study abroad  
\*\* end of roster \*\*  
Student found: Kevin:EE:12 credit hours:tuition  
due:5,918.00:total payment:0.00:last payment date:  
--/--/--:non-resident:international:study abroad  
Tuition updated. Student Study abroad status set to false.  
forKevin:EE:12 credit hours:tuition due:35,655.00:total  
payment:0.00:last payment date:  
--/--/--:non-resident:international  
Student found: Clyde:EE:12 credit hours:tuition  
due:35,655.00:total payment:0.00:last payment date:  
--/--/--:non-resident:international  
Tuition updated. Student Study abroad status set to true.  
forClyde:EE:12 credit hours:tuition due:5,918.00:total  
payment:0.00:last payment date:  
--/--/--:non-resident:international:study abroad