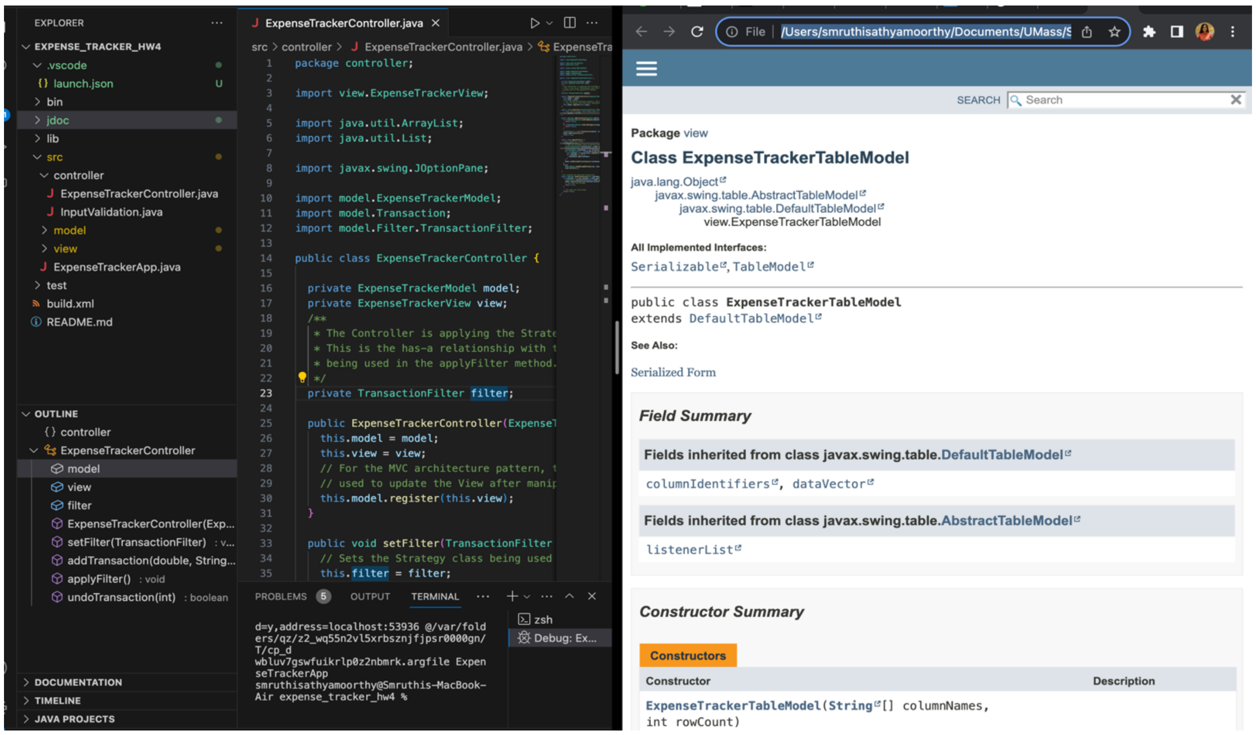
Team: SleeperCells
Expense Tracker Debugging Screenshots – HW4

Repo: https://github.com/sudharshan1234/expense_tracker_hw4

1. Java API view (e.g., javadoc, class outline)



```
EXPLORER
EXPENSE_TRACKER_HW4
  .vscode
    launch.json   U
  bin
  jdoc
  lib
  src
    controller
      ExpenseTrackerController.java
      InputValidation.java
    model
    view
    ExpenseTrackerApp.java
  test
  build.xml
  README.md

OUTLINE
  {} controller
  ExpenseTrackerController
    model
    view
    filter
    ExpenseTrackerController(Exp...
    setFilter(TransactionFilter) : v...
    addTransaction(double, String...
    applyFilter() : void
    undoTransaction(int) : boolean
DOCUMENTATION
TIMELINE
JAVA PROJECTS
```

```java
package controller;

import view.ExpenseTrackerView;

import java.util.ArrayList;
import java.util.List;

import javax.swing.JOptionPane;

import model.ExpenseTrackerModel;
import model.Transaction;
import model.Filter.TransactionFilter;

public class ExpenseTrackerController {

  private ExpenseTrackerModel model;
  private ExpenseTrackerView view;
  /**
   * The Controller is applying the Strate
   * This is the has-a relationship with t
   * being used in the applyFilter method.
   */
  private TransactionFilter filter;

  public ExpenseTrackerController(ExpenseT
    this.model = model;
    this.view = view;
    // For the MVC architecture pattern, t
    // used to update the View after manip
    this.model.register(this.view);
  }

  public void setFilter(TransactionFilter
    // Sets the Strategy class being used
    this.filter = filter;
```

```
PROBLEMS 5   OUTPUT   TERMINAL

d=y,address=localhost:53936 @/var/fold
ers/qz/z2_wq55n2vl5xrbsznjfjpsr0000gn/
T/cp_d
wbluv7gswfuikrlp0z2nbmrk.argfile Expen
seTrackerApp
smruthisathyamoorthy@Smruthis-MacBook-
Air expense_tracker_hw4 %
```

File | /Users/smruthisathyamoorthy/Documents/UMass/S

SEARCH

Package view

Class ExpenseTrackerTableModel

java.lang.Object
  javax.swing.table.AbstractTableModel
    javax.swing.table.DefaultTableModel
      view.ExpenseTrackerTableModel

All Implemented Interfaces:

`Serializable, TableModel`

```
public class ExpenseTrackerTableModel
extends DefaultTableModel
```

See Also:

Serialized Form

Field Summary

Fields inherited from class javax.swing.table.DefaultTableModel

`columnIdentifiers, dataVector`

Fields inherited from class javax.swing.table.AbstractTableModel

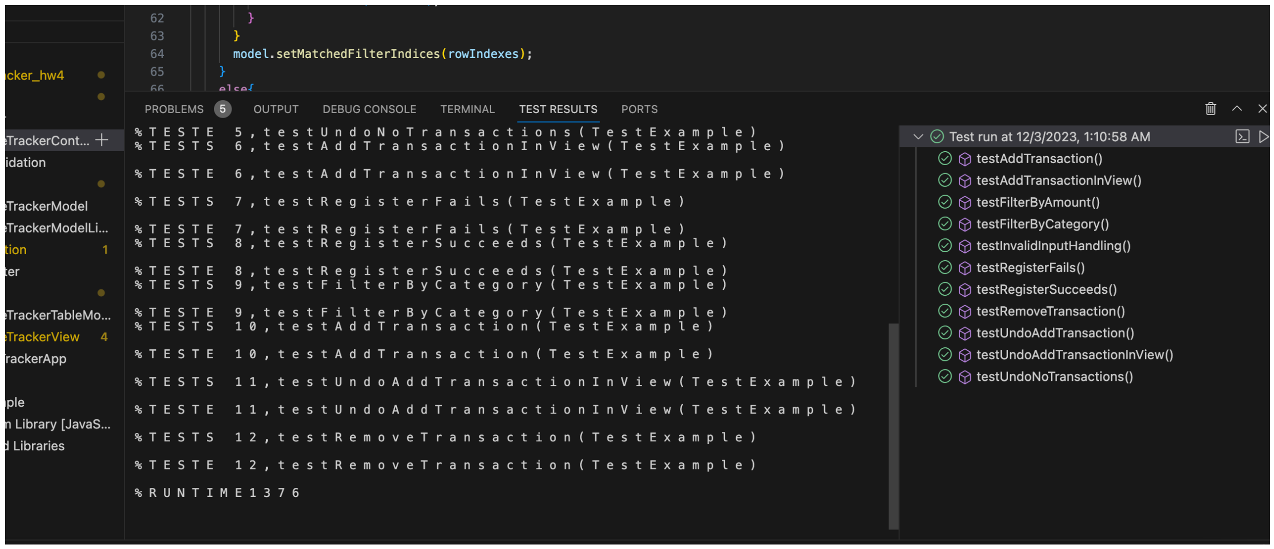
`listenerList`

Constructor Summary

Constructors

Constructor	Description
`ExpenseTrackerTableModel(String[] columnNames, int rowCount)`	

2. JUnit test runner showing all of your test cases passing

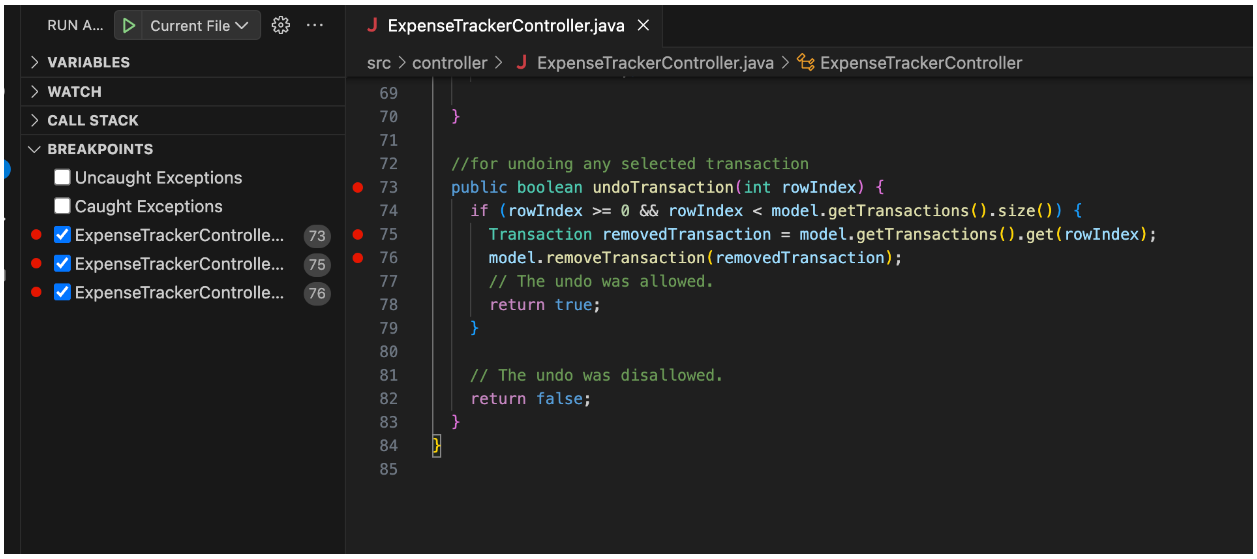


```java
      }
    }
    model.setMatchedFilterIndices(rowIndexes);
  }
  else{
```

```
PROBLEMS 5   OUTPUT   DEBUG CONSOLE   TERMINAL   TEST RESULTS   PORTS

% T E S T E   5 , t e s t U n d o N o T r a n s a c t i o n s ( T e s t E x a m p l e )
% T E S T S   6 , t e s t A d d T r a n s a c t i o n I n V i e w ( T e s t E x a m p l e )

% T E S T E   6 , t e s t A d d T r a n s a c t i o n I n V i e w ( T e s t E x a m p l e )

% T E S T S   7 , t e s t R e g i s t e r F a i l s ( T e s t E x a m p l e )

% T E S T E   7 , t e s t R e g i s t e r F a i l s ( T e s t E x a m p l e )
% T E S T S   8 , t e s t R e g i s t e r S u c c e e d s ( T e s t E x a m p l e )

% T E S T E   8 , t e s t R e g i s t e r S u c c e e d s ( T e s t E x a m p l e )
% T E S T S   9 , t e s t F i l t e r B y C a t e g o r y ( T e s t E x a m p l e )

% T E S T E   9 , t e s t F i l t e r B y C a t e g o r y ( T e s t E x a m p l e )
% T E S T S   1 0 , t e s t A d d T r a n s a c t i o n ( T e s t E x a m p l e )

% T E S T E   1 0 , t e s t A d d T r a n s a c t i o n ( T e s t E x a m p l e )

% T E S T S   1 1 , t e s t U n d o A d d T r a n s a c t i o n I n V i e w ( T e s t E x a m p l e )

% T E S T E   1 1 , t e s t U n d o A d d T r a n s a c t i o n I n V i e w ( T e s t E x a m p l e )

% T E S T S   1 2 , t e s t R e m o v e T r a n s a c t i o n ( T e s t E x a m p l e )

% T E S T E   1 2 , t e s t R e m o v e T r a n s a c t i o n ( T e s t E x a m p l e )

% R U N T I M E 1 3 7 6
```

```
✓ Test run at 12/3/2023, 1:10:58 AM
  ✓ testAddTransaction()
  ✓ testAddTransactionInView()
  ✓ testFilterByAmount()
  ✓ testFilterByCategory()
  ✓ testInvalidInputHandling()
  ✓ testRegisterFails()
  ✓ testRegisterSucceeds()
  ✓ testRemoveTransaction()
  ✓ testUndoAddTransaction()
  ✓ testUndoAddTransactionInView()
  ✓ testUndoNoTransactions()
```

3. Debugger showing the breakpoint for the undo



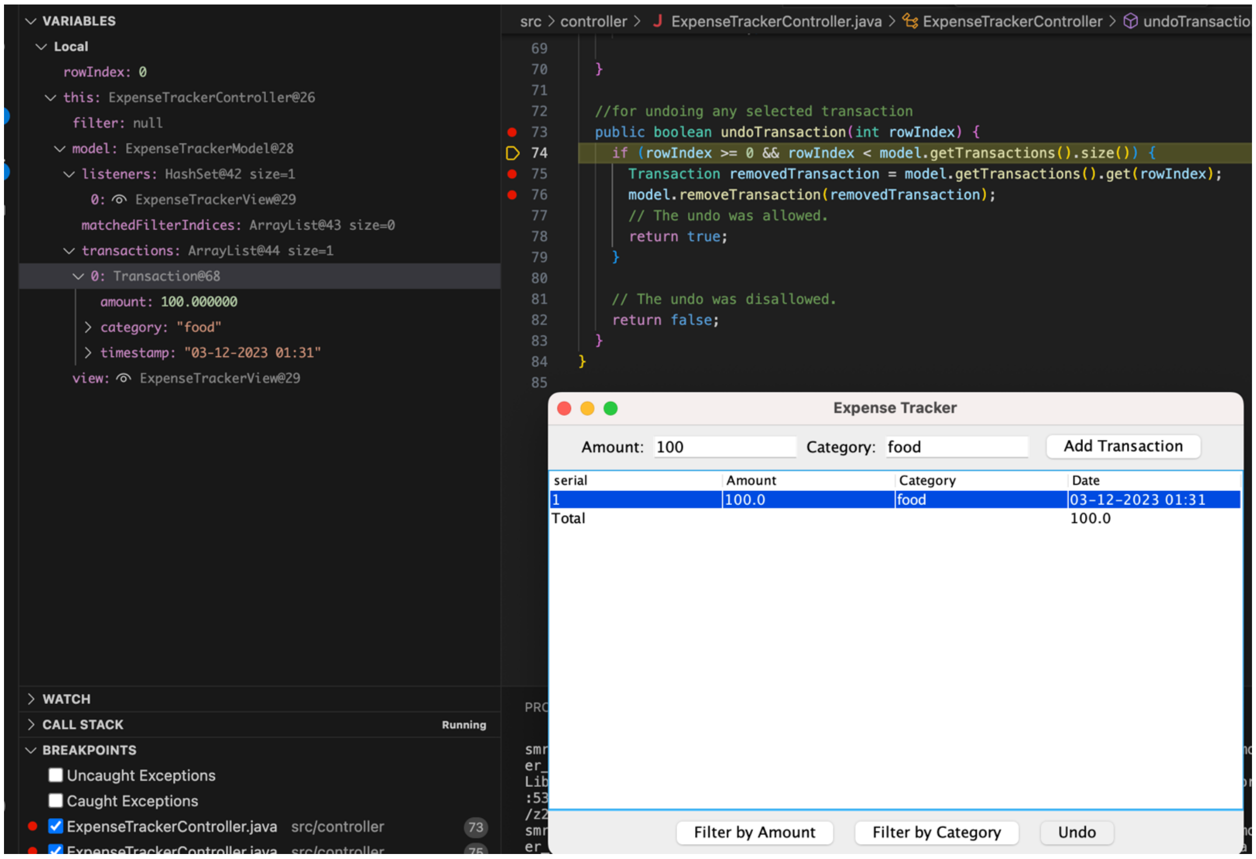
- ☐ Uncaught Exceptions
- ☐ Caught Exceptions
- ☑ ExpenseTrackerControlle... 73
- ☑ ExpenseTrackerControlle... 75
- ☑ ExpenseTrackerControlle... 76

ExpenseTrackerController.java

src > controller > ExpenseTrackerController.java > ExpenseTrackerController

```java

  }

  //for undoing any selected transaction
  public boolean undoTransaction(int rowIndex) {
    if (rowIndex >= 0 && rowIndex < model.getTransactions().size()) {
      Transaction removedTransaction = model.getTransactions().get(rowIndex);
      model.removeTransaction(removedTransaction);
      // The undo was allowed.
      return true;
    }

    // The undo was disallowed.
    return false;
  }
}

```

4. Debugger showing the program execution state (usually the variables view) after calling add transaction but before calling undo (show the model and/or UI widgets set appropriately)



```
rowIndex: 0
this: ExpenseTrackerController@26
  filter: null
  model: ExpenseTrackerModel@28
    listeners: HashSet@42 size=1
      0: ExpenseTrackerView@29
    matchedFilterIndices: ArrayList@43 size=0
    transactions: ArrayList@44 size=1
      0: Transaction@68
        amount: 100.000000
        category: "food"
        timestamp: "03-12-2023 01:31"
  view: ExpenseTrackerView@29
```

- ☐ Uncaught Exceptions
- ☐ Caught Exceptions
- ☑ ExpenseTrackerController.java src/controller 73
- ☑ ExpenseTrackerController.java src/controller 75

src > controller > ExpenseTrackerController.java > ExpenseTrackerController > undoTransactio

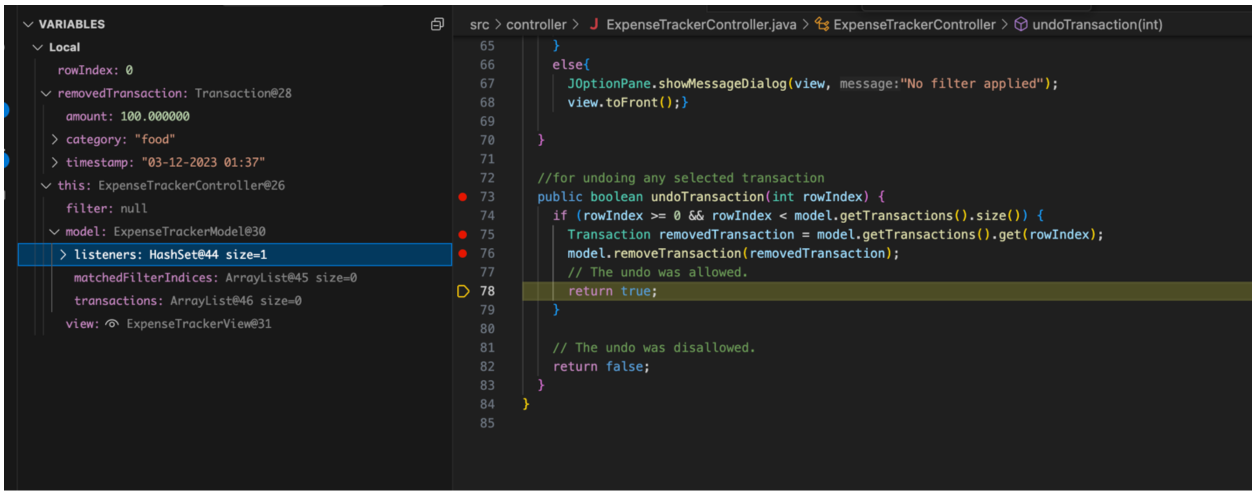
```java

  }

  //for undoing any selected transaction
  public boolean undoTransaction(int rowIndex) {
    if (rowIndex >= 0 && rowIndex < model.getTransactions().size()) {
      Transaction removedTransaction = model.getTransactions().get(rowIndex);
      model.removeTransaction(removedTransaction);
      // The undo was allowed.
      return true;
    }

    // The undo was disallowed.
    return false;
  }
}

```

Expense Tracker

Amount: 100 Category: food

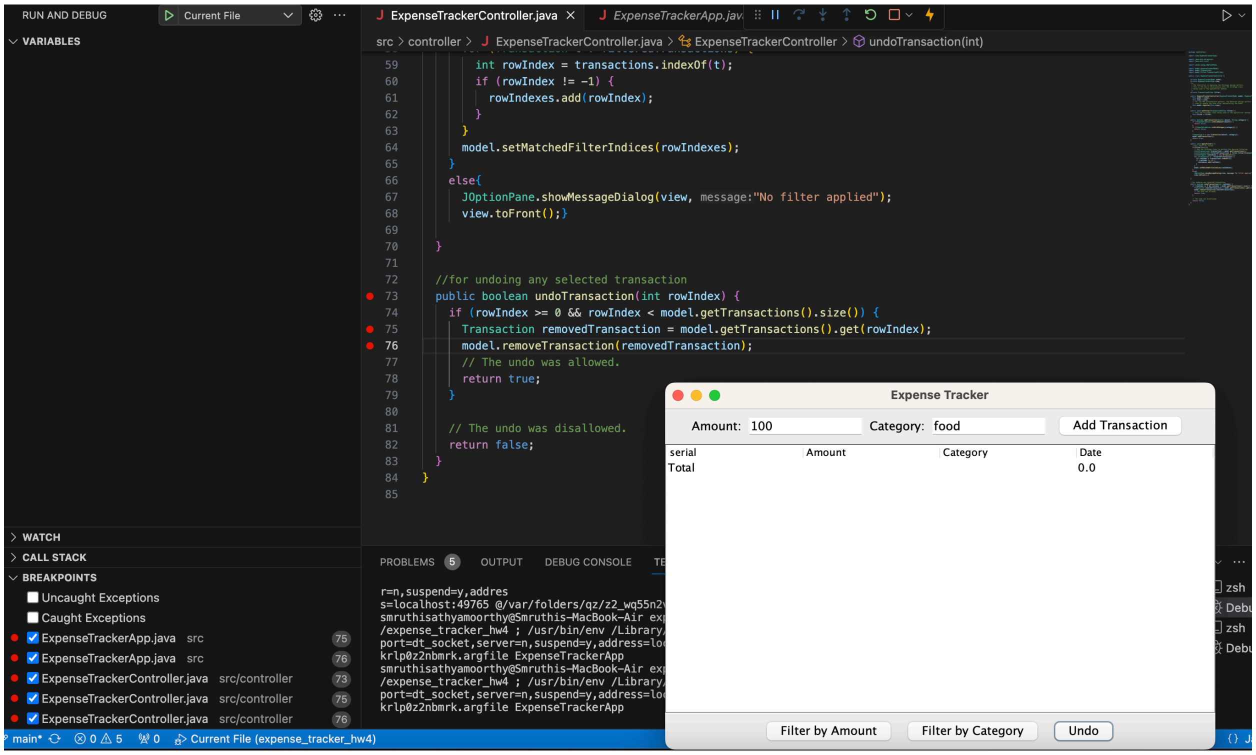
serial	Amount	Category	Date
1	100.0	food	03-12-2023 01:31
Total			100.0

5. Debugger showing the program execution state (usually the variables view) after calling the undo (show the model and/or UI widgets are empty again)


VARIABLES
Local
src > controller > ExpenseTrackerController.java > ExpenseTrackerController > undoTransaction(int)

```
rowIndex: 0
removedTransaction: Transaction@28
  amount: 100.000000
  category: "food"
  timestamp: "03-12-2023 01:37"
this: ExpenseTrackerController@26
  filter: null
  model: ExpenseTrackerModel@30
    listeners: HashSet@44 size=1
    matchedFilterIndices: ArrayList@45 size=0
    transactions: ArrayList@46 size=0
  view: ExpenseTrackerView@31
```

```java
        }
        else{
            JOptionPane.showMessageDialog(view, message:"No filter applied");
            view.toFront();}

    }

    //for undoing any selected transaction
    public boolean undoTransaction(int rowIndex) {
      if (rowIndex >= 0 && rowIndex < model.getTransactions().size()) {
        Transaction removedTransaction = model.getTransactions().get(rowIndex);
        model.removeTransaction(removedTransaction);
        // The undo was allowed.
        return true;
      }

      // The undo was disallowed.
      return false;
    }
}
```



```java
          int rowIndex = transactions.indexOf(t);
          if (rowIndex != -1) {
            rowIndexes.add(rowIndex);
          }
        }
        model.setMatchedFilterIndices(rowIndexes);
      }
      else{
        JOptionPane.showMessageDialog(view, message:"No filter applied");
        view.toFront();}

    }

    //for undoing any selected transaction
    public boolean undoTransaction(int rowIndex) {
      if (rowIndex >= 0 && rowIndex < model.getTransactions().size()) {
        Transaction removedTransaction = model.getTransactions().get(rowIndex);
        model.removeTransaction(removedTransaction);
        // The undo was allowed.
        return true;
      }

      // The undo was disallowed.
      return false;
    }
}
```

Amount: 100 Category: food

serial	Amount	Category	Date
Total			0.0

```
r=n,suspend=y,addres
s=localhost:49765 @/var/folders/qz/z2_wq55n2
smruthisathyamoorthy@Smruthis-MacBook-Air exp
/expense_tracker_hw4 ; /usr/bin/env /Library/
port=dt_socket,server=n,suspend=y,address=loc
krlp0z2nbmrk.argfile ExpenseTrackerApp
smruthisathyamoorthy@Smruthis-MacBook-Air exp
/expense_tracker_hw4 ; /usr/bin/env /Library/
port=dt_socket,server=n,suspend=y,address=loc
krlp0z2nbmrk.argfile ExpenseTrackerApp
```

☐	Uncaught Exceptions		
☐	Caught Exceptions		
✓	ExpenseTrackerApp.java	src	75
✓	ExpenseTrackerApp.java	src	76
✓	ExpenseTrackerController.java	src/controller	73
✓	ExpenseTrackerController.java	src/controller	75
✓	ExpenseTrackerController.java	src/controller	76

main* ⓧ 0 ⚠ 5 0 Current File (expense_tracker_hw4)