**ALGORITHM FOR BUG FIXES**

Step 1: Begin.

Step 2: Declare variables option, expenses, and add some values to expenses.

Step 3: Print ‘

”1. I wish to review my expenditure",

"2. I wish to add my expenditure",

"3. I wish to delete my expenditure",

"4. I wish to sort the expenditures",

"5. I wish to search for a particular expenditure",

"6. Close the application”

’.

Step 4: Take input for option from the user.

Step 5: If option = 1, go to Step 12.

Step 6: If option = 2, go to Step 13.

Step 7: If option = 3, go to Step 17.

Step 8: If option = 4, go to Step 22.

Step 9: If option = 5, go to Step 28.

Step 10: If option = 6, go to Step 36, or else go to Step 11.

Step 11: Print “You have made an invalid choice”, and go to Step 37.

Step 12: Print expenses.

Step 13: Declare variable val.

Step 14: Take input for val from the user.

Step 15: Add the val in the expenses, expenses.add(val).

Step 16: Go to Step 12, and then go to Step 3.

Step 17: Declare variable confirmChoice.

Step 18: Take input for confirmChoice from the user.

Step 19: If confirmChoice = option, go to Step 20, or else go to Step 21.

Step 20: Empty the expenses, expenses.clear(), then go to Step 12, and then go to Step 3.

Step 21: Print “Oops… try again!”, and then go to Step 3.

Step 22: Initialize variables arrLength = expenses.size, i = 1;

Step 23: If j < arrLength, then repeat Steps 23-27, or else go to Step 3.

Step 24: Initialize variables key = expenses[j], j = i-1;

Step 25: If j >= 0 and expenses[j] > key, then repeat Steps 25-26, or else go to Step 27.

Step 26: expenses[j+1] = expenses[j], i = i-1.

Step 27: expenses[j+1] = key.

Step 28: Declare variable key.

Step 29: Take input for key from the user.

Step 30: Initialize i = -1;

Step 31: If i < expenses.size, then repeat Steps 31- , or else go to Step 33.

Step 32: If index = -1 and expenses[i] = key, set index = i.

Step 33: If index != -1, then go to Step 34, or else Step 35.

Step 34: Print “expense is found in your expenditure”.

Step 35: Print “expense is not found in your expenditure”.

Step 36: Print ”Closing your application”, and then go to Step 37.

Step 37: End.