Execution Chart:

// your header files

  BankAccountMain.cpp

  BankAccountHeader.h

  BankAccount.cpp

// constant size of the vector

// declare a vector of pointers to BankAccount objects called bankAccVector of size = SIZE

// declare an ifstream called inFile that allows the program to open the text file

// declare an integer called largest which will hold the index for the largest BankAccount object, returned by the largest method

// declare an integer called smallest which will hold the index for the smallest BankAccount object, returned by the smallest method

// function prototypes

// method to fill array from file, details of input and output values and purpose of function

  *void fillArray(std::ifstream &input, std::vector<BankAccount *> &accountsVector);*

// method to find the largest account using balance as key

  *int largest(std::vector<BankAccount *> &accountsVector);*

// method to find the smallest account using balance as key

  *int smallest(std::vector<BankAccount *> &accountsVector);*

// method to display all elements of the accounts vector

  *void printArray(std::vector<BankAccount *> &accountsVector);*

// goes through the given vector and removes duplicates

  *void checkDuplicates(std::vector<BankAccount *> &accountsVector);*

// checks to see if there are accounts that can be removed

  bool removeDuplicate(shared_ptr<BankAccount> account1, shared_ptr<BankAccount> account2) {

// method to display the count of objects using static count variable and vector size method

```cpp
        void displayCount(int bankAccCount, int vectorCount);
// method to insert new bank account objects into vector at certain positions
        void insertNewItems(std::vector<BankAccount *> &accountsVector);


        int main() {

        // function calls come here:
        // give the function call and a comment about the purpose,
        // and input and return value if any
        // tries to open file
        // if file can open, display saying so
        // if file cannot open, print an error message and exit
        // fill accounts vector
        // print array
        // find largest
        // display the largest
        // find smallest
        // display the smallest
        // display the count
        // find duplicates and display if found
        // display the count
        // insert pointers to new BankAccount objects into the vector
        // display the count
        }
```

Test Evidence:

```
FAVORITE BANK – CUSTOMER DETAILS
--------------------------------
Account Name: Matilda Patel
Account Number: 1232
Account Balance: -4.00

Account Name: Fernando Diaz
Account Number: 1234
Account Balance: 250.00

Account Name: Vai vu
Account Number: 1240
Account Balance: 987.56

Account Name: Howard Chen
Account Number: 1236
Account Balance: 194.56

Account Name: Vai vu
Account Number: 1240
Account Balance: -888987.56

Account Name: Sugata Misra
Account Number: 1238
Account Balance: 10004.80

Account Name: Fernando Diaz
Account Number: 1234
Account Balance: 8474.00

Account Name: Lily Zhaou
Account Number: 1242
Account Balance: 1.98

Largest Balance:
Account Name: Sugata Misra
Account Number: 1238
Account Balance: 10004.80

Smallest Balance:
Account Name: Vai vu
Account Number: 1240
Account Balance: -888987.56

Using the static count, there are 8 accounts
Using vector size, there are 8 accounts
```

```
Duplicate Accounts Found : Reprinting List

FAVORITE BANK - CUSTOMER DETAILS
--------------------------------
Account Name: Matilda Patel
Account Number: 1232
Account Balance: -4.00

Account Name: Fernando Diaz
Account Number: 1234
Account Balance: 250.00

Account Name: Vai vu
Account Number: 1240
Account Balance: 987.56

Account Name: Howard Chen
Account Number: 1236
Account Balance: 194.56

Account Name: Sugata Misra
Account Number: 1238
Account Balance: 10004.80

Account Name: Lily Zhaou
Account Number: 1242
Account Balance: 1.98

Using the static count, there are 8 accounts
Using vector size, there are 6 accounts

Inserted Three New Accounts: Reprinting List
FAVORITE BANK - CUSTOMER DETAILS
--------------------------------
Account Name: Matilda Patel
Account Number: 1232
Account Balance: -4.00

Account Name: Fernando Diaz
Account Number: 1234
Account Balance: 250.00

Account Name: Amy Machado
Account Number: 1244
Account Balance: 1023.67
```

```
Account Name: Vai vu
Account Number: 1240
Account Balance: 987.56

Account Name: Tak Phen
Account Number: 1262
Account Balance: 6423.03

Account Name: Howard Chen
Account Number: 1236
Account Balance: 194.56

Account Name: Celia Beatle
Account Number: 1276
Account Balance: 3.56

Account Name: Sugata Misra
Account Number: 1238
Account Balance: 10004.80

Account Name: Lily Zhaou
Account Number: 1242
Account Balance: 1.98

Using the static count, there are 11 accounts
Using vector size, there are 9 accounts

Program ended with exit code: 0
```