Homework Assignment

Class:	CS202	Semester:	Fall 2019
Assignment type:	Homework assignment	Due date:	9/17/19
Assignment topic:	Classes – constructors/destructors	**Assignment no.**	2
Delivery:	WebCampus – cpp file		

Goal
Exercise classes and objects including variable members and function members.

Overview
The program will operate on the array of class objects, use constructors/destructors

Procedure for the implementation
1. Implement the class *bankAccount* with the following members:
- Private members:
    - First name   (**string**)
    - Last name   (**string**)
    - Initials   (**string**)
    - Account number   (**int**)
    - Amount   (**int**)
- Public members:
    - **void displayCustomer()**
    - **void readCustomer()**
    - **int getCustomerAmount()**
- constructor:
    - parameterless (why?)
- destructor:
    - prints the text:
      closing the account: *account number, First Name, Last Name,* with the amount *amount*
- static member:
    - Interest rate (**double**)

External function (not in the class): **int getTotalAmount()** (add parameters if necessary).
Set the interest rate to 3.5%.

2. Create the array of 5 customers, each of type bankAccount.
- Hardcode the size of the array using **const int** global variable
- Read data for each of them from keyboard, use **readCustomer()** function
- initials are generated in **readCustomer()** function from first and last name automatically (don't prompt for initials)
- account number is generated randomly in the constructor as the number from the range 100000-300000

3. Print all the customers
Print all record from the array using **displayCustomer()** function for each record, include "estimated amount year from now" by multiplying customer's amount by interest rate.

4. Display total money assets

Calculate the total amount of money using **getTotalAmount()** function on all the accounts and print it in the last line.

Sample output

```
Reading data for customer
First name: John
Last name: Smith
Amount: 500
Reading data for customer
First name: Mary
Last name: Jane
Amount: 325
Reading data for customer
First name: Ralph
Last name: Bush
Amount: 1000
Reading data for customer
First name: Ann
Last name: Doe
Amount: 100
Reading data for customer
First name: Melinda
Last name: Stone
Amount: 600

CUSTOMERS SUMMARY
Customer: John Smith (JS)
account:  2486753 at 3.5% has amount 500
estimated amount year from now: 517.5
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Customer: Mary Jane (MJ)
account:  1075818 at 3.5% has amount 325
estimated amount year from now: 336.4
--------------------------------
Customer: Ralph Bush (RB)
account:  1137486 at 3.5% has amount 1000
estimated amount year from now: 1035.0
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Customer: Ann Doe (AD)
account:  2640300 at 3.5% has amount 100
estimated amount year from now: 103.5
--------------------------------
Customer: Melinda Stone (MS)
account:  1898924 at 3.5% has amount 600
estimated amount year from now: 621.0
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SUM OF AMOUNTS: 2525

closing the account: 1898924, Melinda, Stone, with the amount 600
closing the account: 2640300, Ann, Doe, with the amount 100
closing the account: 1137486, Ralph, Bush, with the amount 1000
closing the account: 1075818, Mary, Jane, with the amount 325
closing the account: 2486753, John, Smith, with the amount 500
```

Submission:

Include the following elements in your submission: (rid = your rebel id)

Problem	Element	File
1	Code of your program	rid_1.cpp file
	Summary of the submission	
	Summary: 1 file, submit it to the WebCampus. Remember about proper names of the files!	