

IT210 Business Applications with C++

Program Assignment

Credit Card Interest Calculator

Purpose

Write a C++ program **with functions** that will calculate the interest on **one or more customers'** credit card's unpaid balances using the average daily balance.

Program Input

The **standard input** for this program which **will also be echoed**, is:

- Customer's first and last name
- Credit card number
- Balance shown in the bill (*netBalance*)
- Payment made (*payment*)
- Days in the billing cycle (*d1*)
- Number of days payment made before billing cycle (*d2*)

Calculate the average daily balance, interest, and APR based on the formulas given below:

$$\text{averageDailyBalance} = (\text{netBalance} * \text{d1} - \text{payment} * \text{d2})/\text{d1}$$

$$\text{interest} = \text{averageDailyBalance} * \text{APR} / (100 * 12)$$

where **APR** depends on the average daily balance as shown below

$$\text{averageDailyBalance} < \$100 \text{ APR} = 5\%$$

$$\text{averageDailyBalance} \text{ between } \$100 \text{ and } \$1000 \text{ APR} = 10\%$$

$$\text{averageDailyBalance} > \$1000 \text{ APR} = 15\%$$

Your program will utilize functions to:

1. Read first and last name (**void function**)
2. Read credit card number (**value returning function**
 - a. Use a **void function** to verify read credit card number is correct)
3. Read the balance shown in bill (*netBalance*), payment made (*payment*), days in billing cycle (*d1*), and number days payment made before billing cycle (*d2*) using a **void function**
4. Calculate the average daily balance using a **void function**
5. Determine the **APR** using a **value returning function**
6. Determine the **interest** using a **void function**
7. Output the results using a **void function**

Your program's input/output must be identical to **Module 5 Program Assignment (1)** except you will be using functions. It is assumed that you will be displaying the descriptive header using a **void function** as shown in class

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Submission Requirements:

1. Please submit the program on Blackboard

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*****=  
* IT210 Business Applications with C++      *  
* Programmer: Vijay Kalburgi                *  
* Date: February 27, 2017                    *  
* Mdoule 5 Program Assignment               *  
* Interest Calculator                      *  
*****=
```

This program calculates the interest on unpaid
credit card balances using the average daily balance

Please enter the first and last name on the credit card: Siri Gowri

You entered Siri Gowri

Please enter the credit card number: 1234

You entered 1234

If this is correct, press 0 or 1 to try again: 1

Please enter the credit card number: 2345

You entered 2345

If this is correct, press 0 or 1 to try again: 0

Please enter the balance shown in the credit card bill: 660

You entered \$660

Please enter the payment you made: 40

You entered \$40

Please enter the number of days in the billing cycle: 30

You entered 30

You entered 30

Please enter the number of days payment was made before billing cycle: 7

You entered 7

```
*****  
12345678901234567890123456789012345678901234567890  
*****
```

Siri Gowri 2345

FIRST NAME LAST NAME CARD NUMBER

Credit Card Balance.....	660.00
Annual Interest Rate.....	10.00
Payment Made.....	40.00
Number of Days in Billing Cycle.....	30
Number of Days Before Billing Cycle.....	7
Average Daily Balance.....	650.67
Interest on Unpaid Balance.....	5.42

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*****
```

Please enter 0 to exit or 1 for another customer: 1

```
=*****=  
* IT210 Business Applications with C++        *  
* Programmer: Vijay Kalburgi                    *  
* Date: February 27, 2017                        *  
* Module 5 Program Assignment                    *  
* Interest Calculator                              *  
=*****=
```

This program calculates the interest on unpaid
credit card balances using the average daily balance

Please enter the first and last name on the credit card: