**TASK-13**

Saving Account Balance

**EXPLANATION:**

Write a program that calculates the balance of a saving account at the end of a period of time. It should ask the user for the annual interest rate, the starting balance, and the number of months that have been passed since the account was established. A loop should then iterate once for every month, performing the following.

A. Ask the user the amount deposited into the account during the month. (Do not accept the negative numbers). This amount should be added to the balance

B. Ask the user for the amount withdrawn from the account during the month. (Do not accept negative numbers). This amount should be subtracted from the balance.

C. Calculate the monthly interest rate. The monthly interest rate is the annual interest rate divided by the twelve. Multiply the monthly interest rate by the balance and add the result to the balance.

After the last iteration the program should display the ending balance, the total amount of deposits, the total amount of withdraws, and the total interest earned.

If a negative balance is calculated at any point, a message should display indicating that account has been closed and loop should terminate.

**INPUT:**

#include <iostream>

#include <conio.h>

#include <windows.h>

using namespace std ;

void cin\_clear ()

{

Sleep (2000) ;

system("CLS") ;

cin.clear () ;

cin.ignore ( INT\_MAX , '\n' ) ;

}

int continuationLoop ()

{

bool check = true , flag = true ;

char option ;

while ( check )

{

system("CLS") ;

cout << "Do you want to continue (y/n) : " ;

option = getch() ;

if ( option == 'y' )

{

system ("CLS") ;

return 1 ;

}

else if ( option == 'n' )

{

return 0 ;

}

}

}

int main ()

{

bool flag = true ;

while ( flag )

{

double annual\_interest , initial\_balance , months , monthly\_interest , deposited\_ammount , ammount , ammount\_withdrawn , remaining ;

double deposits = 0 , withdraws = 0 , balance ;

cout << "Please enter annual interest rate (in percent ) : " ;

while ( ! ( cin >> annual\_interest ) )

{

cout << "No character please!" ;

cin\_clear () ;

cout << "Please enter annual interest rate ( in percent ) : " ;

}

cout << "Please enter the starting balance (in Rs) : " ;

while ( ! ( cin >> initial\_balance ) || initial\_balance < 1 )

{

cout << "No character or negative balance ! " ;

cin\_clear () ;

cout << "Please enter the startting balance ( in Rs ) : " ;

}

cout << "Please enter the number of months passed : " ;

while ( ! ( cin >> months ) )

{

cout << "Months cannot be less than 1 or a character ! " ;

cin\_clear() ;

cout << "Please enter the number of months passed : " ;

}

monthly\_interest = annual\_interest / (12.0/100) ;

for ( int i = 1 ; i <= months ; i++ )

{

cout << "Please enter the ammount deposited (in Rs) : " ;

while ( ! ( cin >> ammount ) || ammount < 0 )

{

cout << "No character or a negative int ! " ;

cin\_clear () ;

cout << "Please enter the ammount deposited ( in Rs ) : " ;

}

deposits = deposits + ammount ;

deposited\_ammount = balance + ammount ;

if ( deposited\_ammount < 0 )

{

cout << "Account withdrawn ! " ;

return 0 ;

}

cout << "Please enter the ammount withdrawn (in Rs) : " ;

while ( ! ( cin >> ammount\_withdrawn ) || ammount\_withdrawn < 0 )

{

cout << "No character or a negative int ! " ;

cin\_clear () ;

cout << "Please enter ammount withdrawn (in Rs) : " ;

}

withdraws = withdraws + ammount\_withdrawn ;

remaining = deposited\_ammount - ammount\_withdrawn ;

balance += ( remaining \* monthly\_interest ) ;

if ( remaining < 0 || balance < 0 )

{

cout << "Account withdrawn ! " ;

return 0 ;

}

}

cout << "The ending balance is : " << balance << " Rs." << endl ;

cout << "The total ammount of deposits is : " << deposits << " Rs." << endl ;

cout << "The total ammount of withdraw's is : " << withdraws << " Rs." << endl ;

system("pause") ;

system("cls") ;

flag = continuationLoop () ;

}

}

**OUTPUT:**

