

# PROJECT SUBMISSION

## MEMBERS

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## CODE:

```
#include <iostream>
using namespace std;
```

```
void inputData(double &balance, double &annualTaxRate, int &months);
void processTransactions(int months, double balance, double annualTaxRate);
double getValidatedAmount(string message);
```

```
int main()
{
    int months;
    double annualTaxRate;
    double balance;

    inputData(balance, annualTaxRate, months);
    processTransactions(months, balance, annualTaxRate);

    return 0;
}
```

```
void inputData(double &balance, double &annualTaxRate, int &months)
{
    cout << "Enter initial balance: ";
    cin >> balance;

    cout << "Enter annual tax rate (%): ";
    cin >> annualTaxRate;

    cout << "Enter total number of months: ";
    cin >> months;
```

```
}
```

```
void processTransactions(int months, double balance, double annualTaxRate)
```

```
{
```

```
    double deposits[months];
```

```
    double withdrawals[months];
```

```
    double taxes[months];
```

```
    double totalDeposit = 0;
```

```
    double totalWithdrawal = 0;
```

```
    double totalTax = 0;
```

```
    double monthlyTaxRate = annualTaxRate / 12 / 100;
```

```
    for (int i = 0; i < months; i++)
```

```
    {
```

```
        cout << "\nMonth " << i + 1 << endl;
```

```
        deposits[i] = getValidatedAmount("Enter deposit amount: ");
```

```
        balance += deposits[i];
```

```
        totalDeposit += deposits[i];
```

```
        withdrawals[i] = getValidatedAmount("Enter withdrawal amount: ");
```

```
        balance -= withdrawals[i];
```

```
        totalWithdrawal += withdrawals[i];
```

```
        taxes[i] = balance * monthlyTaxRate;
```

```
        balance -= taxes[i];
```

```
        totalTax += taxes[i];
```

```
    }
```

```
    cout<<endl;
```

```
    cout << " Account Summary " << endl;
```

```
    cout << "Final Balance: " << balance << endl;
```

```
    cout << "Total Deposited: " << totalDeposit << endl;
```

```
    cout << "Total Withdrawn: " << totalWithdrawal << endl;
```

```
    cout << "Total Tax Deducted: " << totalTax << endl;
```

```
}
```

```
double getValidatedAmount(string message)
```

```
{
```

```
    double amount;
```

```

do
{
    cout << message;
    cin >> amount;
} while (amount < 0);

return amount;
}

```

```

PF project.cpp X
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1  #include <iostream>
2  using namespace std;
3
4  void inputData(double &balance, double &annualTaxRate, int &months);
5  void processTransactions(int months, double balance, double annualTaxRate);
6  double getValidatedAmount(string message);
7
8  int main()
9  {
10     int months;
11     double annualTaxRate;
12     double balance;
13
14     inputData(balance, annualTaxRate, months);
15     processTransactions(months, balance, annualTaxRate);
16
17     return 0;
18 }
19
20 void inputData(double &balance, double &annualTaxRate, int &months)
21 {
22     cout << "Enter initial balance: ";
23     cin >> balance;
24
25     cout << "Enter annual tax rate (%): ";
26     cin >> annualTaxRate;
27
28     cout << "Enter total number of months: ";
29     cin >> months;
30 }
31
32 void processTransactions(int months, double balance, double annualTaxRate)
33 {
34     double deposits[months];
35     double withdrawals[months];
36     double taxes[months];
37

```

PF project.cpp X

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```
32 void processTransactions(int months, double balance, double annualTaxRate)
36     double taxes[months];
37
38     double totalDeposit = 0;
39     double totalWithdrawal = 0;
40     double totalTax = 0;
41
42     double monthlyTaxRate = annualTaxRate / 12 / 100;
43
44     for (int i = 0; i < months; i++)
45     {
46         cout << "\nMonth " << i + 1 << endl;
47
48         deposits[i] = getValidatedAmount("Enter deposit amount: ");
49         balance += deposits[i];
50         totalDeposit += deposits[i];
51
52         withdrawals[i] = getValidatedAmount("Enter withdrawal amount: ");
53         balance -= withdrawals[i];
54         totalWithdrawal += withdrawals[i];
55
56         taxes[i] = balance * monthlyTaxRate;
57         balance -= taxes[i];
58         totalTax += taxes[i];
59     }
60     cout<<endl;
61     cout << " Account Summary " << endl;
62     cout << "Final Balance: " << balance << endl;
63     cout << "Total Deposited: " << totalDeposit << endl;
64     cout << "Total Withdrawn: " << totalWithdrawal << endl;
65     cout << "Total Tax Deducted: " << totalTax << endl;
66 }
67
68 double getValidatedAmount(string message)
69 {
70     double amount;
71     do
```

```

60     cout<<endl;
61     cout << " Account Summary " << endl;
62     cout << "Final Balance: " << balance << endl;
63     cout << "Total Deposited: " << totalDeposit << endl;
64     cout << "Total Withdrawn: " << totalWithdrawal << endl;
65     cout << "Total Tax Deducted: " << totalTax << endl;
66 }
67
68 double getValidatedAmount(string message)
69 {
70     double amount;
71     do
72     {
73         cout << message;
74         cin >> amount;
75     } while (amount < 0);
76
77     return amount;
78 }

```

## **RESULT:**

### Output

```

Enter initial balance: 70000
Enter annual tax rate (%): 9
Enter total number of months: 3

```

Month 1

```

Enter deposit amount: 8000
Enter withdrawal amount: 4569

```

Month 2

```

Enter deposit amount: 7000
Enter withdrawal amount: 7000

```

Month 3

```

Enter deposit amount: 6521
Enter withdrawal amount: 0

```

Account Summary

```

Final Balance: 78263.3
Total Deposited: 21521
Total Withdrawn: 11569
Total Tax Deducted: 1688.74

```

=== Code Execution Successful ===

## **Git Hub Link:**

<https://github.com/2540047-sudo/Saving-Account-Management-System.git>