

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 "Total Withdrawn: " 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;
}

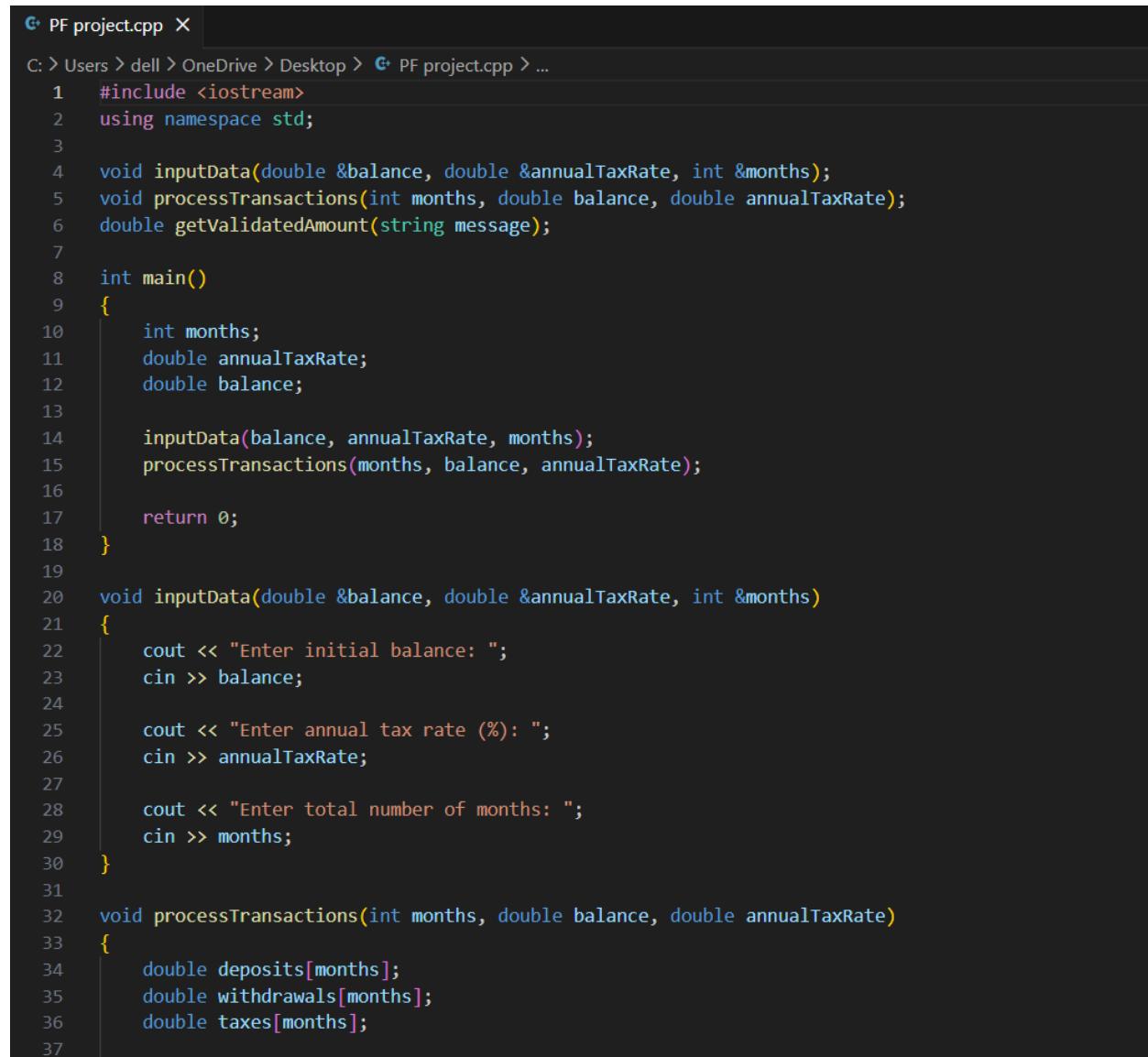
double getValidatedAmount(string message)
{
    double amount;
```

```

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

return amount;
}

```



```

C:\Users\dell\OneDrive\Desktop> g++ project.cpp & ./project
Enter initial balance: 1000
Enter annual tax rate (%): 5
Enter total number of months: 12

```

```

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

C: > Users > dell > OneDrive > Desktop > PF project.cpp > ...

32 void processTransactions(int months, double balance, double annualTaxRate)
33 {
34     double taxes[months];
35
36     double totalDeposit = 0;
37     double totalWithdrawal = 0;
38     double totalTax = 0;
39
40     double monthlyTaxRate = annualTaxRate / 12 / 100;
41
42     for (int i = 0; i < months; i++)
43     {
44         cout << "\nMonth " << i + 1 << endl;
45
46         deposits[i] = getValidatedAmount("Enter deposit amount: ");
47         balance += deposits[i];
48         totalDeposit += deposits[i];
49
50         withdrawals[i] = getValidatedAmount("Enter withdrawal amount: ");
51         balance -= withdrawals[i];
52         totalWithdrawal += withdrawals[i];
53
54         taxes[i] = balance * monthlyTaxRate;
55         balance -= taxes[i];
56         totalTax += taxes[i];
57     }
58
59     cout << endl;
60     cout << " Account Summary " << endl;
61     cout << "Final Balance: " << balance << endl;
62     cout << "Total Deposited: " << totalDeposit << endl;
63     cout << "Total Withdrawn: " << totalWithdrawal << endl;
64     cout << "Total Tax Deducted: " << totalTax << endl;
65
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>