



Republic of the Philippines  
**RIZAL TECHNOLOGICAL UNIVERSITY**  
Cities of Mandaluyong and Pasig

**COLLEGE OF ENGINEERING, ARCHITECTURE AND TECHNOLOGY**

# **COMPUTER PROGRAMMING 1**

**(ITC111L)**

## **FINANCIAL COUNTER**

<b>GRADE</b>

*Submitted by:*



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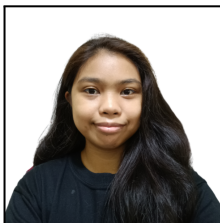
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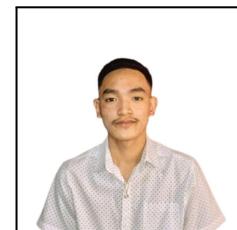
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### **I. INTRODUCTION**

The Financial Counter aims to be beginner friendly to users who plan to loan money, they can see right away their future amount with the fixed interest rate from the percentages of their own capital / income. This system is made not just for the users who loan but also for the financiers (users who lend money) to perceive right away how much they will grow from lending their money. We choose this project to bridge our mathematics lesson which is personal finance on developing a system that is unique for us.

### **II. DESCRIPTION OF THE PROJECT**

Personal finance system helps individuals view their financial status directly. The users will know ahead of time how much they will need to pay in the future without the hassle of computing for themselves using this system. The first thing that users will see is a register and log in option. Upon clicking the register button, an information sheet will appear on the system wherein the user will be required to fill out their name, address, contact number, email address, password and other important details. Once the user has filled out all the information needed, an information sheet with their answers will appear to let the user verify the information they input. Thereafter, a new window will appear where the user will need to input their monthly income. After the user input their monthly income, a set of percentage contains 20%, 30%, 40%, and 50% will be presented to the user. This percentage shows the amount that the user could borrow. The user could only loan a certain percentage of their monthly salary with a maximum of 50% of it. Upon choosing a certain percentage of their monthly salary to borrow, the system will show the rate of interest from the selected principal. Upon seeing the interest, the user will need to specify a duration of how long they would pay the loan in years. After indicating how long the user will take to pay the loan, the total amount of loan will appear together with its interest. Once the user has completed the procedure, a new window will appear that will show the digital receipt of the transaction. This will show the information sheet of the user including the total amount of money that the user needs to pay with its interest. Below the receipt is a logout button which the user could choose if they decided to exit from the window. The logout button will direct the user from the first screen where the user will see a register and log in option.



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### **III. OBJECTIVES**

The main objective of this system is to track the amount of interest added to the user's borrowed money. The users could also register for an account, sign in and sign out, choose how much money they want to borrow (based on the percentage of their current salary), and choose for how long they want to pay for it.

1. To construct a C++ tool that allows the user to calculate the interest on an investment or loan.
2. To make use of sophisticated programming techniques like void function, math.io, conio.h, math.h, istream, fstream, stdlib.h, string.h, and iomanip.

### **IV. SIGNIFICANCE OF THE STUDY**

Our program has a great significance to various groups of people such as the business owners, students, working class etc as they will be able to access. This is due to the fact that users can access Personal Finance on their own provided that they sign up. The fee for the loan is set by the repayment schedule, and the borrower must pay it back quarterly or bimonthly. The best part about Personal Finance is that you can get loans quickly, do simple transactions, check your most recent transactions, and enjoy many other benefits.

### **V. SCOPE AND DELIMITATIONS**

The researchers made this program to have a breakdown of information about their finances such as their outstanding loans. The program will assist users in figuring out how much they will need to pay in the future, either in total or on a monthly or bi-monthly payment. Many potential users, including private businesses, companies, but especially those who are employed, will highly benefit from using the system as a result of the advantages that it may offer.

Our program focuses on tracking the interest added to the user's borrowed money. This also aims to provide a clear statement about how long and how much they need to pay for their borrowed money. With this system, the users will have a clear list or a breakdown of how many months they will need to pay for the money they borrowed along with the summation of the amount they borrowed plus the interest added.

#### **Delimitation of the Study**

The system has its own limitations which is the user cannot pick the interest percentage for their loaned amount or invested amount as in our system the interest rates are fixed based on the percentage from their income.



## VI. SCREEN OUTPUT

```
=====
                        Financial Counter
===== MENU =====
1.LOGIN
2.REGISTER
3.FORGOT PASSWORD (or) USERNAME
4.Exit
=====
Enter your choice : 2
```

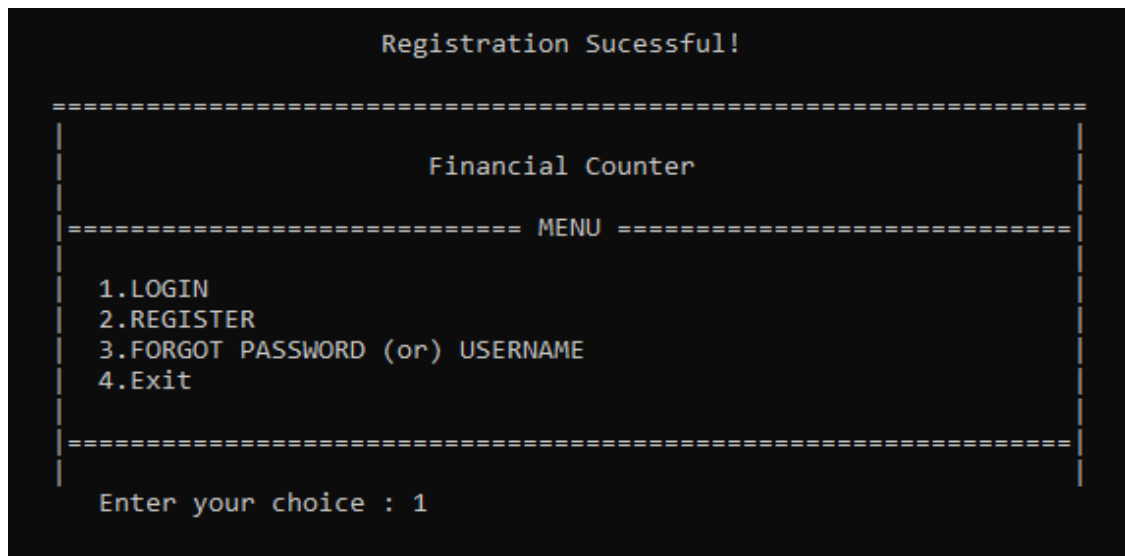
**Fig 1. Asks the user to choose from the options, user chooses 2 (register)**

```
=====
                        Please enter the following details
=====
Enter the username: Emmanuel
=====
Enter the password: 12345_
```

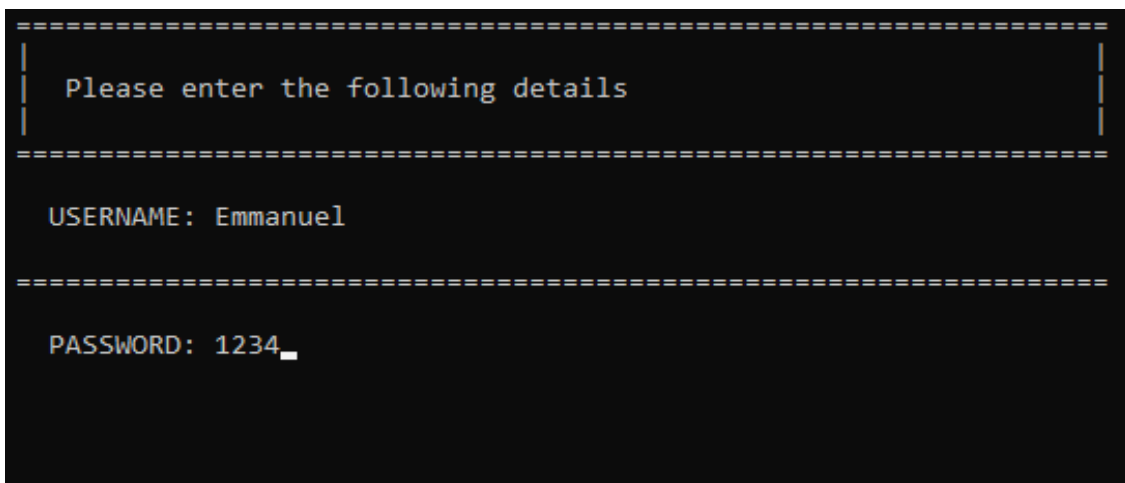
**Fig 2. Asks user to input their username and password**



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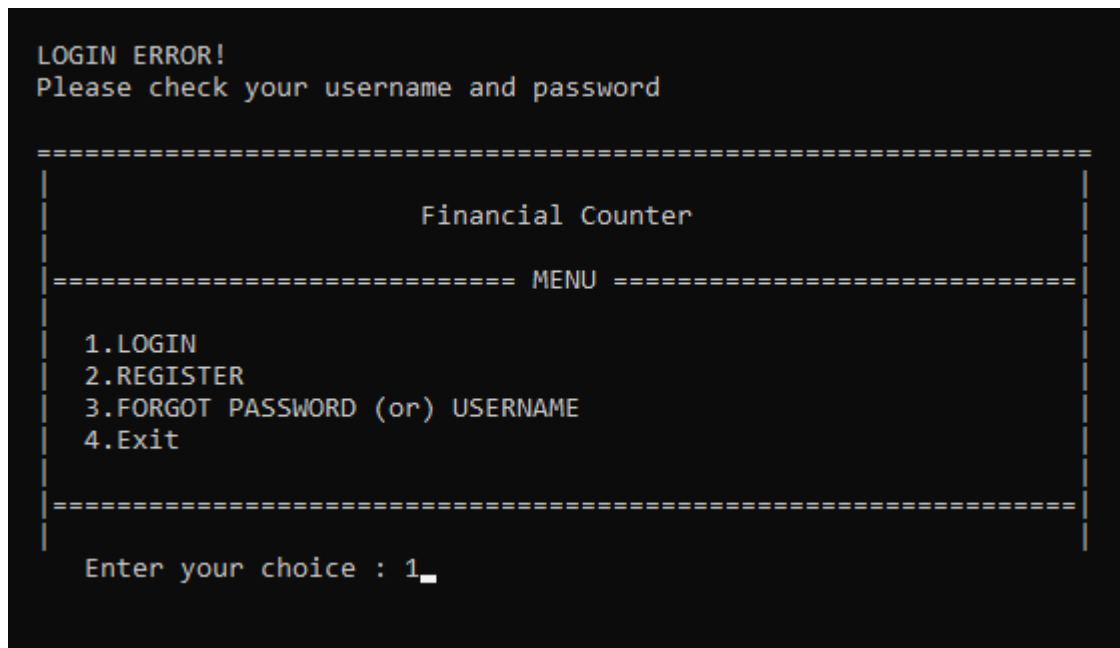
**Fig 3. Asks the user to choose from the options, user chooses 1 (Login)**



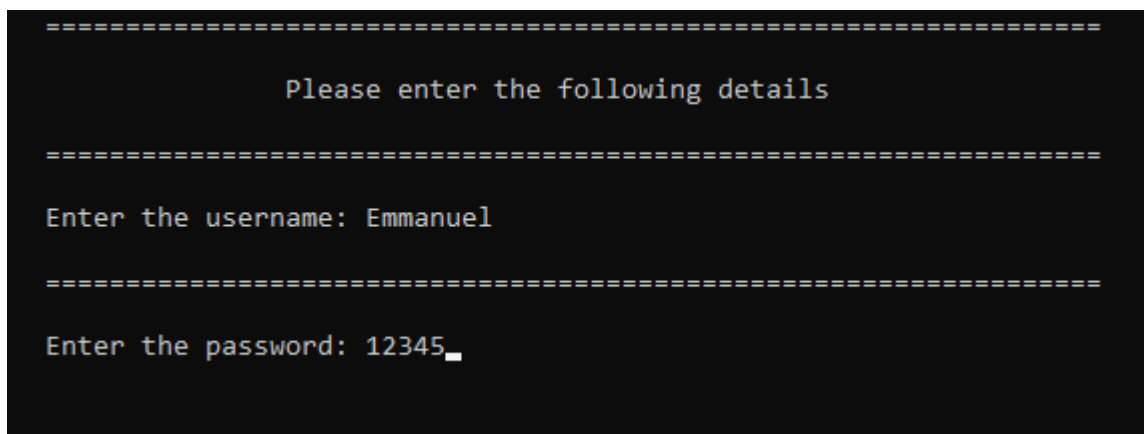
**Fig 4. Asks user to input their username and password, user inputs wrong password**



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**Fig 4.5** system will show there was an error in the password or username which then automatically shows the main menu again.



**Fig 5.** Asks user to input their username and password (user rewrites username and password correctly)



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```
=====
Hello Emmanuel!
<LOGIN SUCCESSFUL>
Thanks for logging in...

=====

Press any key to continue...
```

**Fig 5.5. system shows login was successful**

```
=====
Financial Counter
=====
1. Calculate Compound Interest and Future Value
2. Quit
=====
Select an option: _
```

**Fig 6. asks the user to choose from the option.**



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```
=====
Please enter the following details to verify your identity
=====
Please Enter Your First Name: Emmanuel
=====
Please Enter Your Middle Name: Bañano
=====
Please Enter Your Last Name: Eulalio
=====
Enter Your Address: Manggahan, Pasig
=====
Enter Your Cellphone Number: 123456789
=====
```

```
=====
Enter Day: Sat
=====
Enter Month: Dec
=====
Enter Day Number: 12
=====
Enter Year: 2022
```

**Fig 7. asks users to enter personal information, and date today.**





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```
=====
Insert your salary: 30000

You've entered a salary of: 30000

Please choose what percentage of your salary you want to borrow.
20% , 30%, 40% or 50%

40

you've chosen: 40%
=====

This is the 40% of your Salary: 12000

How many years are you planning to pay the amount you owe? 4
```

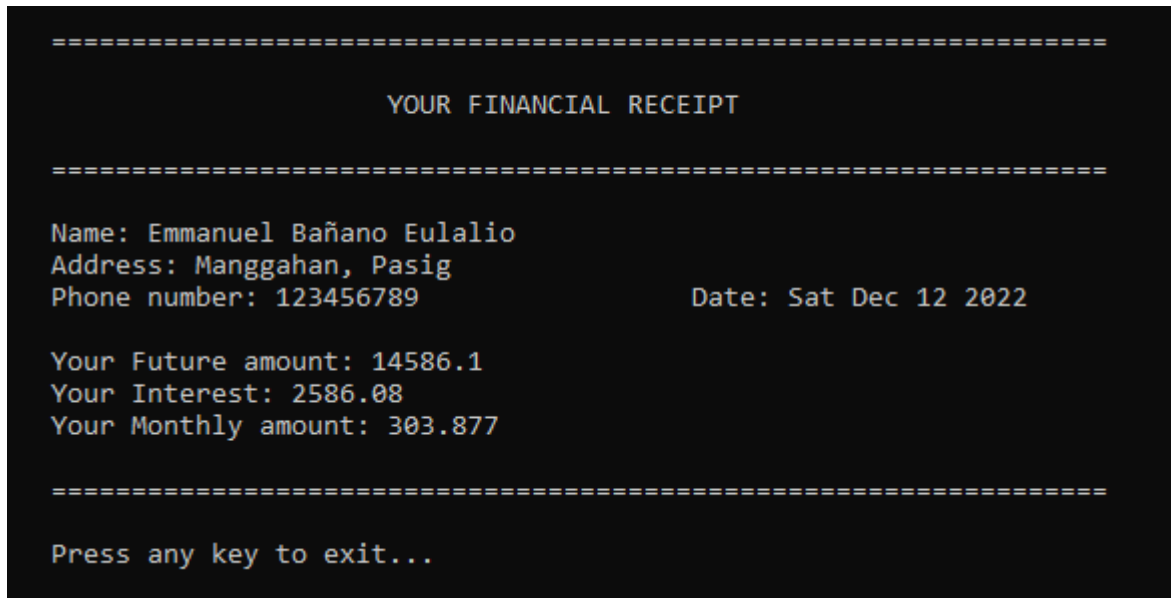
**Fig 8.** asks the user to enter his salary, lets user pick from the percentage options then the system gets the percentage of which the user chose and displays the amount that will be lended to the user. then lets users enter the estimated years it will take them to pay.

```
=====
You've Chosen 4 Year/s
=====
The interest rate for this percentage is: 5%
=====
Your estimated future amount in a span of 4 year/s: 14586.1
=====
Your Total Interest is: 2586.08
=====
Your Total Monthly amount to be paid: 303.877
=====
```

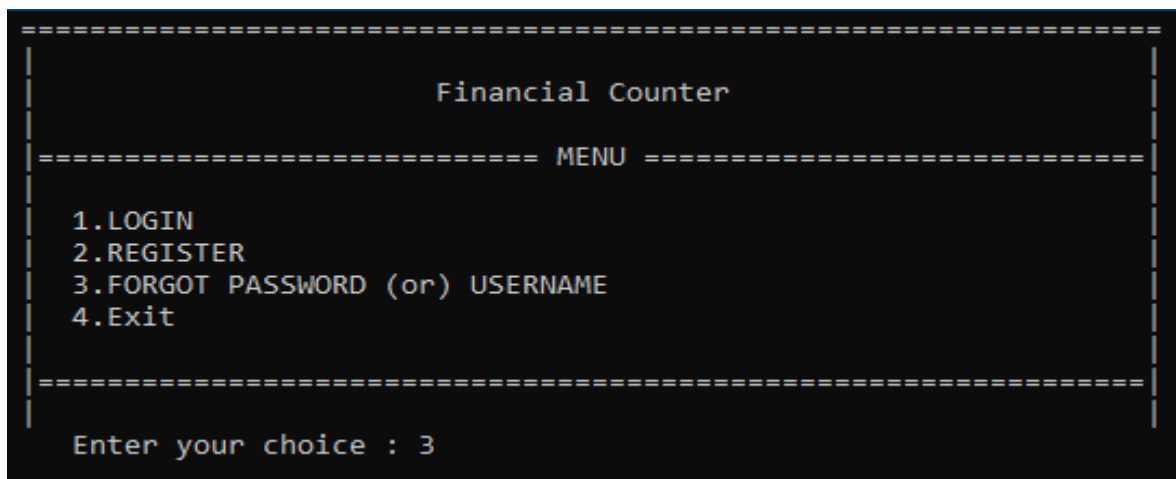
**Fig 9.** displays the future amount, interest and monthly amount to be paid.



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**Fig 10.** displays the financial receipt that includes the information and the financial information from the financial counter.



**Fig 11.** lets user choose, user chooses option 3 (forgot password or username).



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```
Forgotten? We're here to help!
=====
1.Search your id by username
2.Search your id by password
3.Main menu
=====
Enter your choice: 1
=====
Enter your remembered username: Emmanuel
=====
Hurray, account found!!
=====
Your password is: 12345
=====
Press any key to go back to Menu... _
```

**Fig 11.1** user chooses choice 1 which is entering a remembered username then system will show the password that connects with it

```
Forgotten? We're here to help!
=====
1.Search your id by username
2.Search your id by password
3.Main menu
=====
Enter your choice: 2
=====
Enter the remembered password: 12345
=====
Your password is found in the database
=====
Your Id is: Emmanuel
=====
Press any key to go back to Menu...
```

**Fig 11.5.**user chooses choice 2 which is entering a remembered password then system will show the username that connects with it





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### **VII. SOURCE CODE**

```
#include<iostream>
#include<string>
#include<conio.h>
#include<math.h>
#include<istream>
#include<fstream>
#include<stdlib.h>
#include<string.h>
#include<iomanip>
```

```
using namespace std;
```

```
void login();
```

```
void registr();
```

```
void forgot();
```

```
void CalculateCompoundInterestandFutureValue() {
```

```
    system ("cls");
```

```
    int percent, ans, datenum, dayno, year;
```

```
    string fname, mname, exname, lname, date, day, month, address, cellnum;
```

```
    double salary_amount = 0, interest_rate, number_of_years, total_amount, monthly_amount, P, F;
```

```
    cout<<endl;
```

```
    cout<<endl;
```



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// USERS INFORMATION

```
cout<<"\t\t===== "<<endl<<endl  
;
```

```
    cout<<"\t\tPlease enter the following details to verify your identity"<<endl<<endl;
```

```
cout<<"\t\t===== "<<endl;
```

```
    cout<<"\n\t\tPlease Enter Your First Name: ";
```

```
    getline(cin, fname);
```

```
cout<<"\t\t===== "<<endl;
```

```
    cout<<"\n\t\tPlease Enter Your Middle Name: ";
```

```
    getline(cin, mname);
```

```
cout<<"\t\t===== "<<endl;
```

```
    cout<<"\n\t\tPlease Enter Your Last Name: ";
```

```
    getline(cin, lname);
```

```
cout<<"\t\t===== "<<endl;
```

```
    cout<<"\n\t\tEnter Your Address: ";
```

```
    getline(cin, address);
```

```
cout<<"\t\t===== "<<endl;
```

```
    cout<<"\n\t\tEnter Your Cellphone Number: ";
```

```
    getline(cin, cellnum);
```

```
cout<<"\t\t===== "<<endl;
```

```
    cout<<"\n\t\tEnter Day: ";
```

```
    cin>>day;
```

```
cout<<"\t\t===== "<<endl;
```

```
    cout<<"\n\t\tEnter Month: ";
```



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```
cin>>month;

cout<<"\t\t===== "<<endl;

cout<<"\n\t\tEnter Day Number: ";

cin>>dayno;

cout<<"\t\t===== "<<endl;

cout<<"\n\t\tEnter Year: ";

cin>>year;

cout<<"\t\t===== "<<endl;

system("cls"); //clear screen

cout<<"\t\t===== "<<endl;

cout<<"\t\tInsert your salary: ";

cin>>salary_amount; //asks the users monthly salary

cout<<"\n\t\tYou've entered a salary of: "<<salary_amount<<endl;

cout<<"\n\t\tPlease choose what percentage of your salary you want to borrow."<<endl; //lets the
user choose the minimum or maximum percentage of loan from his salary

cout<<"\t\t20% , 30%, 40% or 50%"<<endl;

cout<<"\n\t\t";cin>> percent;

cout<<"\n\t\tyou've chosen: "<<percent<<"%"<<endl;

cout<<"\t\t===== "<<endl;

if (percent == 20){ //only gets the 20 percent of users monthly income

    P = salary_amount * 0.2;

    cout<<endl;

    cout<<"\t\tThis is the 20% of your Salary: "<<P<<endl;

    cout<<"\n\t\tHow many years are you planning to pay the amount you owe? ";

    //aks user how long will it take them to pay

    cin>>number_of_years;
```



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```
        cout<<endl;

        system("cls"); //clears screen

        cout<<endl<<endl<<endl;

        cout<<"\t\t===== "<<endl;

        cout<<"\t\tYou've Chosen "<<number_of_years<<" Year/s";

        cout<<endl;

        cout<<"\t\t===== "<<endl;

        cout<<"\t\tThe interest rate for this percentage is: 3.5% ";

        cout<<endl;

        F = P*pow((1 + 0.035),number_of_years);

        total_amount = F;

        monthly_amount=total_amount/(number_of_years*12);

        cout<<"\t\t===== "<<endl;

        cout<<"\t\tYour estimated future amount in a span of "<<number_of_years<<"
year/s: "<<total_amount<<endl;

        cout<<"\t\t===== "<<endl;

        //calculates the total interest

        cout<<"\t\tYour Total Interest is: "<<P*pow((1 + 0.035),number_of_years)-P<<endl;

        cout<<"\t\t===== "<<endl;

        cout<<"\t\tYour Total Monthly amount to be paid: "<<monthly_amount<<endl;

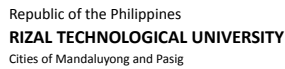
        cout<<"\t\t===== "<<endl;

        cout<<endl<<endl<<endl;

        system("pause");//waits for that to terminate before it continues execution of the
program

        system("cls"); //clear screen
```







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```
cout<<endl<<endl<<endl;

cout<<"\t\t===== "<<endl;

cout<<"\t\tYou've Chosen "<<number_of_years<<" Year/s";

cout<<endl;

cout<<"\t\t===== "<<endl;

cout<<"\t\tThe interest rate for this percentage is: 3.5% ";

cout<<endl;

F = P*pow((1 + 0.035),number_of_years);//calculates the future amount

total_amount = F;

monthly_amount=total_amount/(number_of_years*12);

cout<<"\t\t===== "<<endl;

cout<<"\t\tYour estimated future amount in a span of "<<number_of_years<<"
year/s: "<<total_amount<<endl;

cout<<"\t\t===== "<<endl;

cout<<"\t\tYour Total Interest is: "<<P*pow((1 + 0.035),number_of_years)-P<<endl;

//calculates the total interest

cout<<"\t\t===== "<<endl;

cout<<"\t\tYour Total Monthly amount to be paid: "<<monthly_amount<<endl;

cout<<"\t\t===== "<<endl;

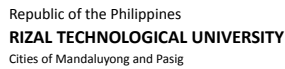
cout<<endl<<endl<<endl;

system("pause");//waits for that to terminate before it continues execution of the
program

system("cls");//clear screen

cout<<"\n\n\t\t===== "<<endl;

cout<<"\n\t\t\t\t YOUR FINANCIAL RECEIPT"<<endl;
```





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```
cout<<endl;

cout<<"\t\t===== "<<endl;

cout<<"\t\tThe interest rate for this percentage is: 5% ";

cout<<endl;

F = P*pow((1 + 0.05),number_of_years); //calculates the future amount

total_amount = F;

monthly_amount=total_amount/(number_of_years*12); //calculates the monthly
amount to be paid

cout<<"\t\t===== "<<endl;

cout<<"\t\tYour estimated future amount in a span of "<<number_of_years<< "
year/s: "<<total_amount<<endl;

cout<<"\t\t===== "<<endl;

cout<<"\t\tYour Total Interest is: "<<P*pow((1 + 0.05),number_of_years)-P<<endl;

cout<<"\t\t===== "<<endl;

cout<<"\t\tYour Total Monthly amount to be paid: "<<monthly_amount<<endl;

cout<<"\t\t===== "<<endl;

cout<<endl<<endl<<endl;

system("pause");//waits for that to terminate before it continues execution of the
program

system("cls");//clear screen

cout<<"\n\n\t\t===== "<<endl;

cout<<"\n\t\t\t\t\t YOUR FINANCIAL RECEIPT"<<endl; //shows the overall
information with the calculated loans

cout<<"\n\t\t\t\t\t ===== "<<endl;

cout<<"\n\t\t\t\t\tName: " << fname << " " << mname << " " << lname << endl;
```



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```

    cout<<"\t\tAddress: "<< address << endl;

    cout<<"\t\tPhone number: "<<cellnum;

    cout<<"\t\tDate: "<< day << " " << month << " " << dayno << " "<< year << endl;

    cout<<"\n";

    cout<<"\t\tYour Future amount: "<<total_amount<<endl;

    cout<<"\t\tYour Interest: "<<P*pow((1 + 0.05),number_of_years)-P<<endl;

    cout<<"\t\tYour Monthly amount: "<<monthly_amount<<endl<<endl;

    cout<<"\t\t=====";

    cout<<"\n\n\t\tPress any key to exit... "<<endl;//when pressed with any key system
    exits

    exit(0);

}

else if (percent == 50){//only gets the 50 percent of users monthly income

    P = salary_amount * 0.5;

    cout<<endl;

    cout<<"\t\tThis is the 50% of your Salary: "<<P<<endl;

    cout<<"\n\t\tHow many years are you planning to pay the amount you owe? ";

    //aks user how long will it take them to pay

    cin>>number_of_years;

    cout<<endl;

    system("cls");//clear screen

    cout<<endl<<endl<<endl;

    cout<<"\t\t===== "<<endl;

    cout<<"\t\tYou've Chosen "<<number_of_years<<" Year/s";

    cout<<endl;

    cout<<"\t\t===== "<<endl;
  
```



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```
cout<<"\t\tThe interest rate for this percentage is: 7% ";

cout<<endl;

F = P*pow((1 + 0.07),number_of_years);//calculates the future amount

total_amount = F;

monthly_amount=total_amount/(number_of_years*12);//calculates the monthly
amount to be paid


cout<<"\t\t===== "<<endl;

cout<<"\t\tYour estimated future amount in a span of "<<number_of_years<<"
year/s: "<<total_amount<<endl;


cout<<"\t\t===== "<<endl;

cout<<"\t\tYour Total Interest is: "<<P*pow((1 + 0.07),number_of_years)-P<<endl;


cout<<"\t\t===== "<<endl;

cout<<"\t\tYour Total Monthly amount to be paid: "<<monthly_amount<<endl;


cout<<"\t\t===== "<<endl;

cout<<endl<<endl<<endl;

system("pause");//waits for that to terminate before it continues execution of the
program

system("cls");//clear screen


cout<<"\n\n\t\t===== "<<endl;

cout<<"\n\t\t\t\t\tYOUR FINANCIAL RECEIPT"<<endl; //shows the overall
information with the calculated loans


cout<<"\n\t\t\t\t\t===== "<<endl;

cout<<"\n\t\t\t\t\tName: " << fname << " " << mname << " " << lname << endl;
```



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```

    cout<<"\t\tAddress: "<< address << endl;

    cout<<"\t\tPhone number: "<<cellnum;

    cout<<"\t\tDate: "<< day << " " << month << " " << dayno << " " << year << endl;

    cout<<"\n";

    cout<<"\t\tYour Future amount: "<<total_amount<<endl;

    cout<<"\t\tYour Interest: "<<P*pow((1 + 0.07),number_of_years)-P<<endl;

//shows the total interest amount

    cout<<"\t\tYour Monthly amount: "<<monthly_amount<<endl<<endl;

    cout<<"\t\t=====";

    cout<<"\n\n\t\tPress any key to exit... ";//when pressed with any key system exits


    exit(0);

}

}

int main()
{
    int choice;//shows the main options and features of the system

    cout<<"\t\t===== "<<endl;

    cout<<"\t\t| " <<endl;

    cout<<"\t\t| Financial Counter |" <<endl;

    cout<<"\t\t| " <<endl;

    cout<<"\t\t|===== MENU =====|" <<endl;

    cout<<"\t\t| " <<endl;

    cout<<"\t\t| 1.LOGIN |" <<endl;

```



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```

cout<<"\t\t| 2.REGISTER                                |"<<endl;
cout<<"\t\t| 3.FORGOT PASSWORD (or) USERNAME            |"<<endl;
cout<<"\t\t| 4.Exit                                      |"<<endl;
cout<<"\t\t|                                           |"<<endl;
cout<<"\t\t|=====|"<<endl;
cout<<"\t\t|                                           |"<<endl;
cout<<"\t\t Enter your choice : "; //asks users choice
cin>>choice;
cout<<endl;
switch(choice)
{
    case 1:
        login();
        break;
    case 2:
        registr();
        break;
    case 3:
        forgot();
        break;
    case 4:

        system("cls"); //clear screen

        cout<<endl<<endl<<endl<<endl<<endl;

        cout<<"\t\t\t\t\t =====<<endl;
        cout<<"\t\t\t\t\t ||\t\t || "<<endl;
        cout<<"\t\t\t\t\t=====| |=====
=====| |===== "<<endl;

        cout<<"\t\t\t\t\t||\t|| || ||\t ||"<<endl;

```







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```
cout<<"\t\t| Please enter the following details          |"<<endl;
cout<<"\t\t|                                     |"<<endl;
cout<<"\t\t===== "<<endl;
cout<<"\n";
cout<<"\t\t USERNAME: "; //aks for users username and password to login
cin>>user;
cout<<"\n";
cout<<"\t\t===== "<<endl;
cout<<"\n";
cout<<"\t\t PASSWORD: ";
cin>>pass;
        cout<<"\n";
cout<<"\t\t===== "<<endl;
cout<<"\n";

ifstream input("database.txt");
while(input>>u>>p)
{
    if(u==user && p==pass)

        {
            count=1;
            system("cls");
        }
}
input.close();
if(count==1)
{
```



INFORMATION TECHNOLOGY DEPARTMENT



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char op = getche(); //A single character is required for this function. The screen is blocked until you press a key.

```
if( op=='1') CalculateCompoundInterestandFutureValue();
```

```
else if ( op=='2') exit(0);
```

```
}while(1);
```

```
}
```

```
else
```

```
{
```

```
    system("cls"); //clear screen
```

```
    cout<<"\n\t\tLOGIN ERROR!\n\t\tPlease check your username and password\n"<<endl;
```

```
    main();
```

```
}
```

```
}
```

```
void registr() //users information sheet
```

```
{
```

```
    string reguser,regpass,ru,rp;
```

```
    system("cls");
```

```
    cout<<"\t\t===== "<<endl;
```

```
    cout<<endl;
```

```
    cout<<setw(65);
```

```
    cout<<"Please enter the following details"<<endl;
```

```
    cout<<endl;
```

```
    cout<<"\t\t";
```

```
        for (int x = 1; x <= 66; x++)
```



## COLLEGE OF ENGINEERING, ARCHITECTURE AND TECHNOLOGY

```
{  
    printf("=");  
}  
cout << "\n";  
cout<<"\n\t\tEnter the username: ";  
cin>>reguser;  
cout<<endl;  
cout<<"\t\t";  
    for (int x = 1; x <= 66; x++)  
    {  
        printf("=");  
    }  
    cout << "\n";  
cout<<"\n\t\tEnter the password: ";  
cin>>regpass;  
cout<<endl;  
  
ofstream reg("database.txt",ios::app);  
reg<<reguser<<' '<<regpass<<endl;  
system("cls"); //clear screen  
cout<<endl;  
cout<<"\n\t\t\t\tRegistration Sucessful!\n"<<endl;  
main();  
  
}  
  
void forgot() //shows if password was forgotten  
{
```



## COLLEGE OF ENGINEERING, ARCHITECTURE AND TECHNOLOGY

```
int ch;

system("cls");

cout<<endl<<endl;

cout<<setw(64);

cout<<"Forgotten? We're here to help!\n";

cout<<"\t\t===== "<<endl;

cout<<"\t\t|                                | "<<endl;

cout<<"\t\t| 1.Search your id by username          | "<<endl; //user searches his username

cout<<"\t\t|                                | "<<endl;

cout<<"\t\t| 2.Search your id by password          | "<<endl; //user can also search his
password to show his username

cout<<"\t\t|                                | "<<endl;

cout<<"\t\t| 3.Main menu                          | "<<endl;

cout<<"\t\t|                                | "<<endl;

cout<<"\t\t===== "<<endl;

cout<<"\t\t Enter your choice: "; //asks users choices between the two

cin>>ch;

cout<<"\t\t===== ";

switch(ch)
{
    case 1:
    {
        int count=0;

        string searchuser,su,sp;

        cout<<"\n\t\t Enter your remembered username: ";

        cin>>searchuser;

        ifstream searchu("database.txt");

        while(searchu>>su>>sp)
```



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```
{
    if(su==searchuser)
    {
        count=1;
    }
}
searchu.close();
if(count==1)
{

cout<<"\t\t=====";

    cout<<"\n\t\t Hurray, account found!!\n";
    cout<<"\n\t\t Your password is: "<<sp<<endl;

cout<<"\t\t===== "<<endl;

    cout<<"\n\t\t Press any key to go back to Menu... ";//when pressed with any key system
will go back to main menu

    cin.get();
    cin.get();
    system("cls");//clear screen
    main();
}
else
{

cout<<"\t\t===== "<<endl;

    cout<<"\n\t\t Sorry, Your userID is not found in our database\n";
    cout<<"\n\t\t Please kindly contact your system administrator for more details
\n"<<endl;

cout<<"\t\t===== "<<endl;

/mbf2022
```



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```
        cout<<"\n\t\t Press any key to try again... ";

        cin.get();

        cin.get();

        system("cls");//clear screen

        main();

    }

    break;

}

case 2:

{

    int count=0;

    string searchpass,su2,sp2;

    cout<<"\n\t\t Enter the remembered password: "; //asks user to enter the remembered
password

    cin>>searchpass;

    ifstream searchp("database.txt");

    while(searchp>>su2>>sp2)

    {

        if(sp2==searchpass)

        {

            count=1;

        }

    }

    searchp.close();

    if(count==1)

    {

        cout<<"\n\t\t=====";
```





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```
cout<<"\n\t\t Your password is found in the database \n";
```

```
cout<<"\n\t\t Your Id is: "<<su2<<endl;
```

```
cout<<"\t\t===== "<<endl;
```

```
cout<<"\n\t\t Press any key to go back to Menu... ";
```

```
cin.get();
```

```
cin.get();
```

```
system("cls");//clear screen
```

```
main();
```

```
}
```

```
else
```

```
{
```

```
cout<<"\t\t===== "<<endl;
```

```
cout<<"\n\t\t Sorry, We cannot found your password in our database \n";
```

```
cout<<"\n\t\t Kindly contact your administrator for more information\n"<<endl;
```

```
cout<<"\t\t===== "<<endl;
```

```
cout<<"\n\t\t Press any key to try again... ";
```

```
cin.get();
```

```
cin.get();
```

```
system("cls");//clear screen
```

```
main();
```

```
}
```

```
break;
```

```
}
```

```
case 3:
```



## **COLLEGE OF ENGINEERING, ARCHITECTURE AND TECHNOLOGY**

```
{  
  
    system ("cls");//clear screen  
  
    cin.get();  
    main();  
}  
default:  
    cout<<"\t\tSorry, You entered wrong choice. Kindly try again"<<endl;  
    forgot();  
}  
}
```

### **VIII. CONCLUSION**

The importance of understanding and applying advanced programming concepts in development of systems using C++ programming language is that it can create a new application from the programmer's perspective, from developing games to applications that can be used for everyone such as our Personal Finance counter system. It is where a system is built to be an easy access for the public on seeing or making their own personal finances, may it be loaned or invested. Combining this application with the own purpose of the system leads to an effective and efficient system for everyone.