A Project Report

On

Number Guess with Login and Registration

For The Course

“Software Development Project-I”

By

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Declaration

This is to certify that the work presented in this project is carried out by the candidate under the supervision of Dr. Ziaur Rahman in the department of Information and Communication Technology, MBSTU, Tangail, Bangladesh. It is also declared that neither of this project has been submitted anywhere else for any degree or diploma. Information derived from the published and unpublished work of others has been acknowledged in the text and a list of references is given.

Signature of Supervisor
Dr. Ziaur Rahman
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Acknowledgements

I must sense grateful to the Almighty Allah to complete the dissertation. At the outset, I would like to express gratitude to my supervisor Dr. Ziaur Rahman, Associate professor, Dept. of Information and Communication Technology, MBSTU who has supported our plan to continue Software Development Project-I. I also like to express gratitude to our supervisor, for his valuable guidance and insight, encouragement, support and reliance throughout the project. However, it is not possible acknowledge properly the effort of our honorable teacher in writing words. We are, as always, indebted to our family. The love and support of our parents remain bedrock of our life.

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Chapter – 1

Introduction of Project

The "Number Guessing Game with Login and Registration" project is a application developed in C++ that combines entertainment with the fundamentals of user authentication. This project aims to create a simple yet engaging game where players try to guess a randomly generated number within a specific range. To enhance the gaming experience and add a layer of personalization, the game incorporates a secure login and registration system
The source code is not that long, over 300 lines. It is compiled in Code::Blocks IDE with GCC compiler.
This project is aimed to show you .

Chapter 2

2.1 - Programming Language

Programming Language : As we know, to communicate with a person, we need a specific language, similarly to communicate with computers, programmers also need a language is called Programming language.

Before learning the programming language, let's understand what is language?

What is Language?

Language is a mode of communication that is used to share ideas, opinions with each other. For example, if we want to teach someone, we need a language that is understandable by both communicators.

What is a Programming Language?

A programming language is a computer language that is used by programmers (developers) to communicate with computers. It is a set of instructions written in any specific language (C, C++, Java, Python) to perform a specific task.

A programming language is mainly used to develop desktop applications, websites, and mobile applications.

Types of programming language:

1. Low-level programming language:

Low-level language is machine-dependent (0s and 1s) programming language. The processor runs low- level programs directly without the need of a compiler or interpreter, so the programs written in low-level language can be run very fast.

Low-level language is further divided into two parts -

i. Machine Language:

Machine language is a type of low-level programming language. It is also called as machine code or object code. Machine language is easier to read because it is normally displayed in binary or hexadecimal form (base 16) form. It does not require a translator to convert the programs because computers directly understand the machine language programs.

The advantage of machine language is that it helps the programmer to execute the programs faster than the high-level programming language.

ii. Assembly Language:

Assembly language (ASM) is also a type of low-level programming language that is designed for specific processors. It represents the set of instructions in a symbolic and human-understandable form. It uses an assembler to convert the assembly language to machine language.

The advantage of assembly language is that it requires less memory and less execution time to execute a program.

2. High-level programming language:

High-level programming language (HLL) is designed for developing user-friendly software programs and websites. This programming language requires a compiler or interpreter to translate the program into machine language (execute the program).

The main advantage of a high-level language is that it is easy to read, write, and maintain.

High-level programming language includes Python, Java, JavaScript, PHP, C#, C++, Objective C, Cobol, Perl, Pascal, LISP, FORTRAN, and Swift programming language.

A high-level language is further divided into three parts -

i. Procedural Oriented programming language:

Procedural Oriented Programming (POP) language is derived from structured programming and based upon the procedure call concept. It divides a program into small procedures called routines or functions.

Procedural Oriented programming language is used by a software programmer to create a program that can be accomplished by using a programming editor like IDE, Adobe Dreamweaver, or Microsoft Visual Studio.

The advantage of POP language is that it helps programmers to easily track the program flow and code can be reused in different parts of the program.

Example: C, FORTRAN, Basic, Pascal, etc.

03.Middle-level programming language:

Middle-level programming language lies between the low-level programming language and high-level programming language. It is also known as the intermediate programming language and pseudo-language.

A middle-level programming language's advantages are that it supports the features of high-level programming, it is a user-friendly language, and closely related to machine language and human language.

Example: C, C++, language

2.2 - C ++ Programming Language

C++ is a programming language that is an extension of an earlier language, C. For the most part, we will use the C subset of C++ in this course because it provides the tools that we need to explore physical data structures. A few of the language features that we will use are part of C++ but not of C. These notes make no attempt to offer a com

Most Important Features of C Language:

- Simple.
- Abstract Data types.
- Machine Independent or Portable.
- Mid-level programming language.
- Structured programming language.
- Rich Library.
- Memory Management.
- Quicker Compilation.

Advantages:

- Object-Oriented. C++ is an object-oriented programming language which means that the main focus is on objects and manipulations around these objects. ...
- Speed. ...
- Compiled. ...
- Rich Library Support. ...
- Pointer Support. ...
- Closer to Hardware.

Disadvantages:

- Object-orientated programming languages have several security issues which means that programs written in C++ aren't as safe as others.
- The pointers that are used in C++ take up a lot of memory which is not always suitable for some devices.
- Cannot support built-in code threads.

2.3 IDE details

Code::Blocks:

Code::Blocks is a free, open-source cross-platform IDE that supports multiple compilers including GCC, Clang and Visual C++. It is developed in C++ using wxWidgets as the GUI toolkit. Using a plugin architecture, its capabilities and features are defined by the provided plugins. Currently, Code::Blocks is oriented towards C, C++, and Fortran. It has a custom build system and optional Make support.

Features

Compilers

Code::Blocks supports multiple compilers, including GCC, MinGW, Digital Mars, Microsoft Visual C++, Borland C++, LLVM Clang, Watcom, LCC and the Intel C++ compiler. Although the IDE was designed for the C++ language, there is some support for other languages, including Fortran and D. A plug-in system is included to support other programming languages.

Code editor

The IDE features syntax highlighting and code folding (through its Scintilla editor component), C++ code completion, class browser, a hex editor and many other utilities. Opened files are organized into tabs. The code editor supports font and font size selection and personalized syntax highlighting colors.

Debugger

The Code::Blocks debugger has full breakpoint support. It also allows the user to debug their program by having access to the local function symbol and argument

display, user-defined watches, call stack, disassembly, custom memory dump, thread switching, CPU registers and GNU Debugger Interface.

Chapter – 3

3.1 - Header file:

- #include<bits/stdc++.h>

#include<bits/stdc++.h>:

h is a header file that we use in our code to include all the standard libraries. It is quite helpful in programming contests and situations where you want to save the time of including different header files. Using the minimum includes is a good idea from the programmer's perspective.

Chapter – 4

4.1 - Function Name & Details

login(): (This function is used to login into the programme)

registration(): (This function is used to registration with user id and password**)**

forgot(): (This function is used to recover the password with the help of user id)

play(): (This function is used to play the number guessing game)

switch(): (This is a built in function which is used to call different functions(like login( ),forgot( ),etc))

system("cls"): This is a function which clear the screen.The cursor is moved to upper left corner of the screen.

rand(): This function is used to generate a random number . This function able to make the game easy ,medium and hard level changing the range of generating number.

Chapter – 5

5.1 – Source Code

Source Code:

```
#include<bits/stdc++.h>
using namespace std;
void login();
void   registration();
void  forgot();
void play();
int main()
{
```

```
    cout<<"\n\n\n";
    cout<< " \t\t\t******HOME PAGE***** \n\n";
    cout<< "\t\tPress 7 to start the programme \n\t\tPress 3 to exit the
programme\n\n";
    string p;
    cin>>p;
    system("cls");
    if(p =="7")
    {
        cout<< "Make a choice form the choice list.\n\n";
        cout<< "\t\t\t || Welcome to the Choice List page ||\n\n";
        cout<< "\t\t\t Choice list : \n\n";
        cout<< "\t\t\t *Press 1 to LOGIN\n";
        cout<< "\t\t\t *Press 2 to REGISTRATION \n";
        cout<< "\t\t\t *Press 3 to FORGOT PASSWORD\n";
        cout<< "\t\t\t *Press 4 to EXIT \n\n";
        int choice ;
        cin>>choice;
        cout<<endl;
        switch (choice)
```

```
{
case 1 :
   login();
   break;
case 2 :
   registration();
   break;
case 3 :
   forgot();
   break;
case 4 :
{
   system("cls");
   cout<< "\n\n\t\tThank You\n\t\t Now you are out from the
Choice List page\n\n";
   main();
   break;
}
default :
   system ("cls");
```

```
            cout<< "You make the wrong choice\n\n";
            main();
        }
    }
    else if(p=="3")
    {
        system("cls");
        cout<< "\n\n\t\tYou quite the game\n";
        cout<<"\n\n\n";
        return 0;
    }
    else
    {
        cout<<"You make the wrong choice\n";
        main();
    }
}
void login()
{
    int flag;
```

```
string userId,password,id,pass;
system("cls");
cout<< "\t\t\t *****Login Page****\n\n";
cout<< "Enter the username and password \n\n";
cout<< "Username   : ";
cin>> userId;
cout<<"Password   : ";
cin>>password;
ifstream input("record.txt");
while(input>>id>>pass)
{
   if(id == userId && pass == password )
   {
      flag = 1;
      system("cls");
   }
}
input.close();
if(flag == 1)
{
```

```
        cout<<userId<< " . Your login is successful \n\nThanks for
loging in \n\n";

        cout<< "Do you want to play number guessing game \n\n";

        cout<<"press 1 to yes \npress 2 to no\n\n";

        int  pros ;

        cin>>pros;

        if(pros==1)

        {

           system("cls");

           play();

        }

        else if(pros == 2)

        {

           system("cls");

           main();

        }

    }

    else

    {

        cout<<"Loging error !!\n Please check your loging id and login
password \n\n";
```

```
        main();
    }
}
void registration()
{
    string ruserId,rpassword;
    system("cls");
    cout<< "\t\t\t  *****Registration Page******* \n\n";
    cout<<"\t\t Enter the username  : ";
    cin>>ruserId;
    cout<<endl;
    cout<<"\t\t Enter the password : ";
    cin>>rpassword;
    ofstream reg("record.txt", ios::app);
    reg<<ruserId<<" "<<rpassword<<endl;
    system("cls");
    cout<<"\n\n\n";
    system("cls");
    cout<< "Registration is successful  \n\n";
    main();
```

```
}
void forgot()
{
   cout<<"\t\t\t *****Password Recover Page******\n\n";
   int press;
   system("cls");
   cout<< "Do you forgot the password ?\n";
   cout<< "Don't worry \n\n press 1 to recover the passwor through
userid\n\n";
   cout<< " Press 2 for go to the main menu\n\n";
   cout<< "Enter your choice : ";
   cin>>press;
   cout<<endl;
   switch (press)
   {


   case 1:
   {
      int flag= 0;
      string userId,sId,spass;
```

```
system("cls");
cout<<" \n\t\t\t Enter the username  : ";
cin>>userId;
ifstream forgt("record.txt");
while(forgt>>sId>>spass)
{
   if(sId == userId)
   {
      flag = 1;
   }
}
forgt.close();
if(flag == 1)
{
   system("cls");
   cout<<"\n\n Your account is found\n";
   cout<<"\n Your password is : "<<spass<<endl;
   main( );
}
else
```

```
        {
            cout<< "\n\t Sorry ! Your account is not found\n\n";
            main( );
        }
        break;
    }
    case 2:
    {
        system("cls");
        main();
        break;
    }
    default :
        cout<< "wrong choice\nn";
        forgot();
    }
}
void play()
{
    cout<<endl;
```

```
   cout<< "                    *** WELCOME TO NUMBER
GUESSING GAME  ***          \n"<<endl;

   cout<<endl;

   cout<< "Enter your age : ";

   int age;

   cin>>age;

   cout<<endl;

   if(age<18)

   {

      system("cls");

      cout<< "\n\n \t\tYou can't play casino . \n\t\tYou are under 18
so according to govt. rules you can't play this game. \n\n";

      main();

   }

   cout<<"Are you male or female \n  If you are a male press 1  \n
Or if you are a female press any number.\n";

   int gender;

   cin>>gender;

   system("cls");

   string address;

   if(gender==1)
```

```
    {
       address = "Sir ";
    }
    else
    {
       address = "Mam ";
    }
    cout<<endl;
    cout<<address<< ", here are the rules for playing the number guessing game.....       \n"<<endl;
    cout<< "\n\n\n";
    cout<< "                              ***/ RULES /***                                \n\n\n";
    cout<<"\t\t\t1. At first you will be provided 100 chips.       \n\n";
    cout<<"\t\t\t2. You have to set the amount of chips for bet.  \n\n";
    cout<<"\t\t\t3. Then you have to guess a number from 1 to  2.   \n \n";
    cout<<"\t\t\t4. If You guessing number is correct , you will gate 10x chips of you bet chips.\n\n";
    cout<<"\t\t\t5. If you guess the wrong number you will lose your beting chips.    \n\n";
```

```
   cout<<"\t\t\t6. You are allowed to play this game if you have minimum 1 chips.   \n\n";

   cout<<endl;

   cout<< "If you want to play you have to accept all the rule \n\n If you are not accepting any of the rule press 0 \n\n Or press 1 to accept the rules     ";

   int permission;



   cin>>permission;

   system("cls");

   cout<<endl;

   if(permission==0)

   {

      cout<<address<< " you cofirmed that you are quiting the game. \n";

      main();

   }

   if(permission == 1)

   {

      cout<<address<< " thanks for accepting the rules. You are in to the game.\n\n";

      int chips =100 ;
```

```
system("cls");

cout<< address<< " your total balance is  =  "<<chips<< " chips\n\n";

cout<< "\n\n";

if(chips == 0)

{

   cout<< "As you have 0 chips you are now out of this game\n\n";

   main( );

}

while(chips>0)

{

   cout<< " Make a decision : If you don't want to play this game write no \n\n If you want to play this game write  yes  to continue  :  \n\n";


   string decision;

   cin>>decision;

   cout<<"You said  : "<<decision<<endl<<endl;

   cout<< "\n\n";

   if(decision=="no")

   {
```

```
            cout<<address<< " you are out of this game       \n\n";
            cout<< address<< " your total balance is     =  "<<chips<<
" chips\n\n";
            chips = 0;
            main();
         }
         else if(decision == "yes")
         {
            cout<< "Enter your amount of chips for  betting    ";
            int bet_chips ;
            cin>>bet_chips;
            cout<< "\n\n";
            if(bet_chips>chips)
            {
               cout<< "You are not able to bet this amount of chips
because you have only "<<chips<<" chips available right now \n\n";
            }
            if (bet_chips<=chips)
            {
               chips =chips - bet_chips ;
```

```
int casino_number=rand()%2+1;


cout<< "Enter your guessing number    ";

int guess_number;

cin>>guess_number;

cout<< "\n\n";

system("cls");

if(casino_number == guess_number)

{

   cout<< "Congratulations!!"<<address<<". you make the correct guess.          \n";

   chips = chips+bet_chips*10;

}

else

{

   cout<< "Sorry!! "<<address<<" you make the wrong guess.  \n\n";

}

cout<<address<< "your current chips amount is = "<<chips<< " chips.\n\n";

if(chips == 0)
```

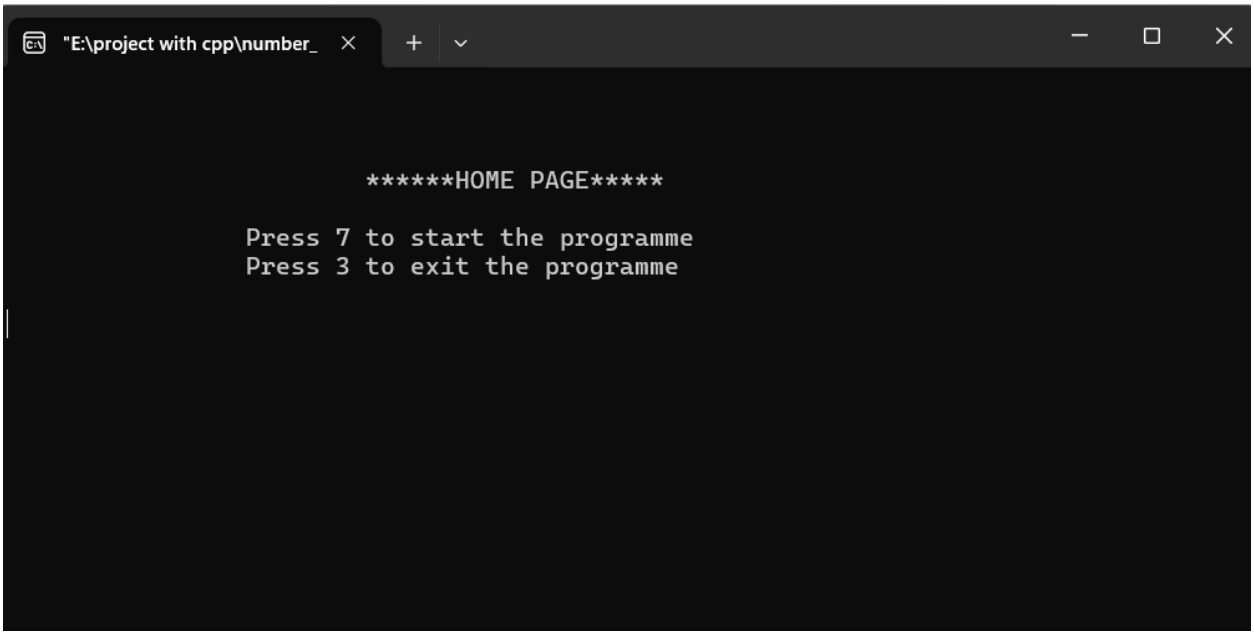
```
            {
                main();
            }
        }
    }
  }
}
```

Chapter – 6

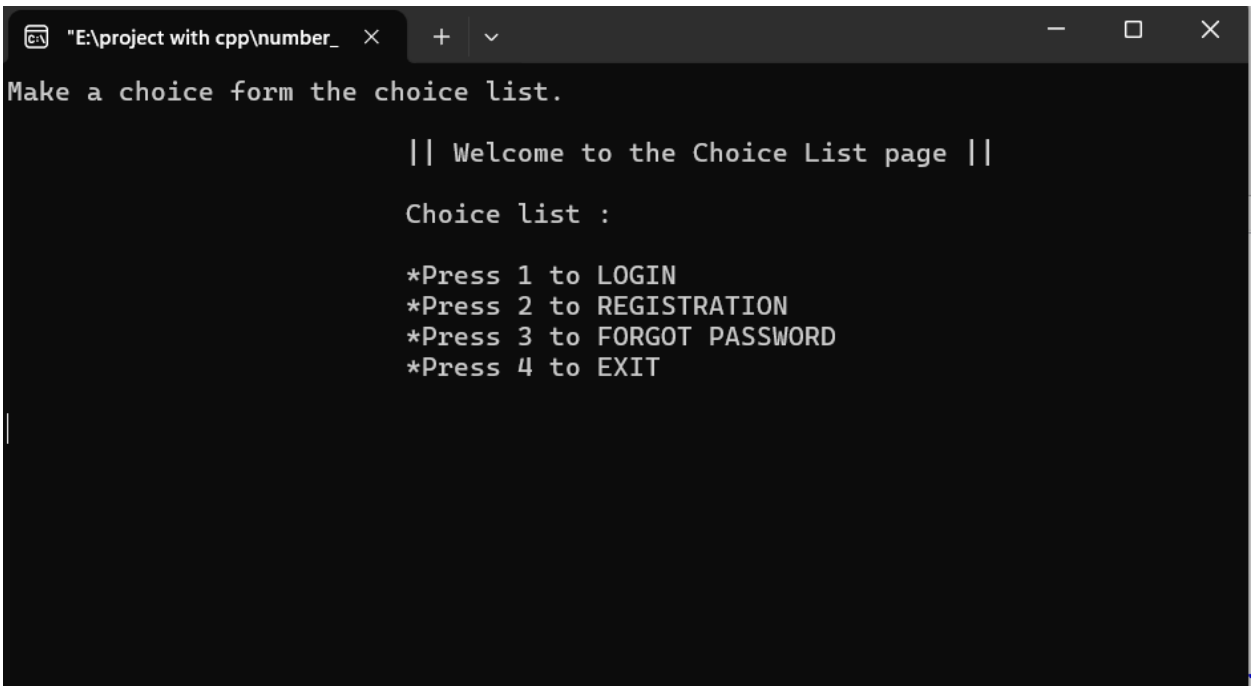
6.1 - Output

Output:

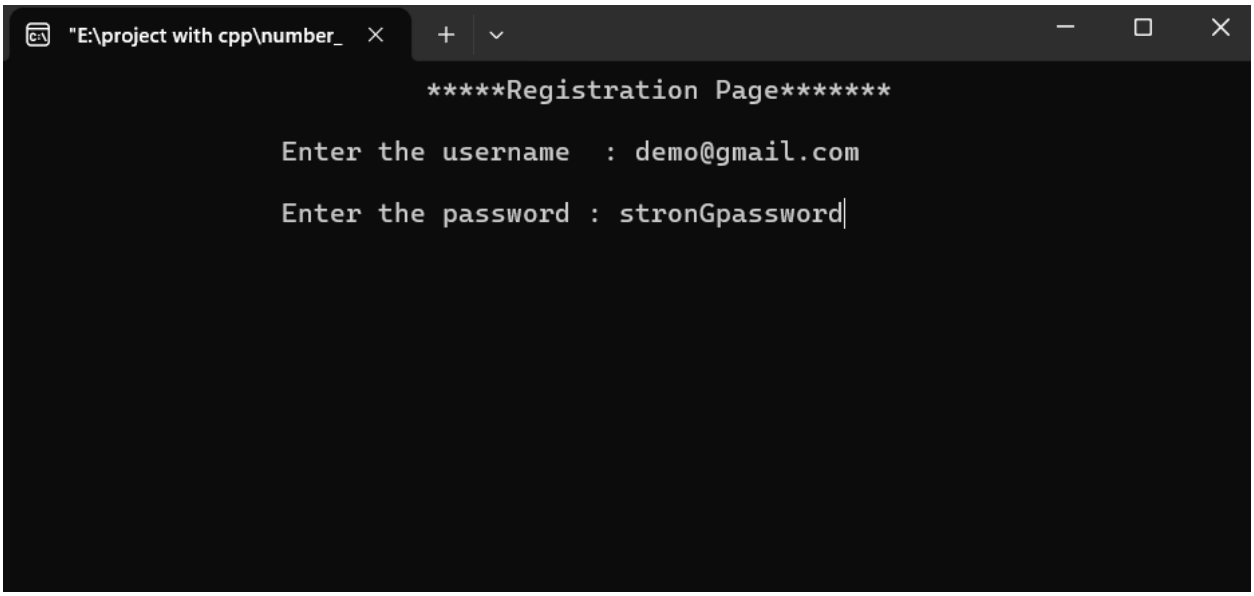
1.The home page



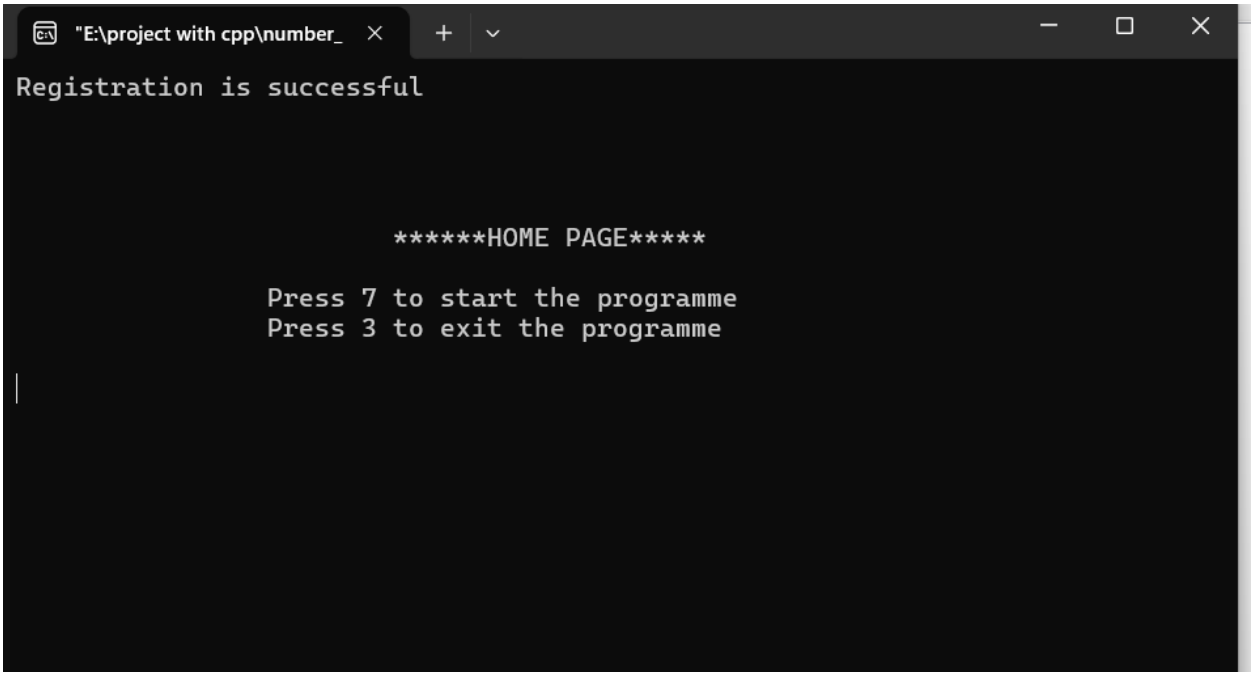
2. Choice list



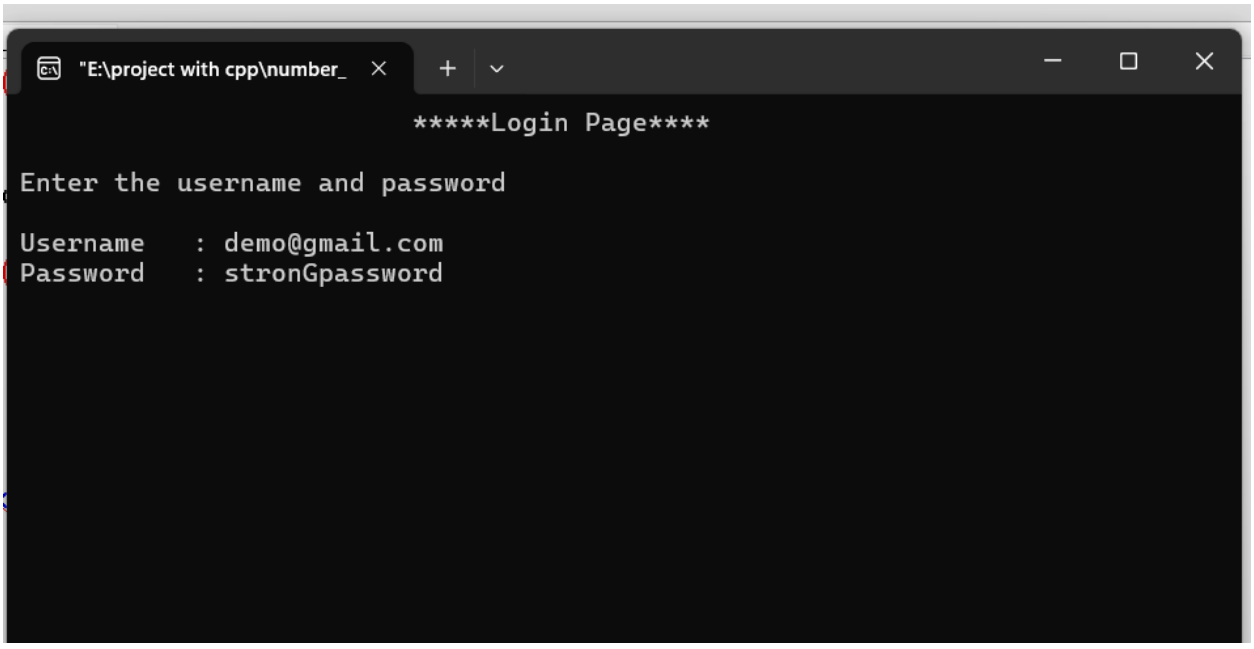
3. Registration Page



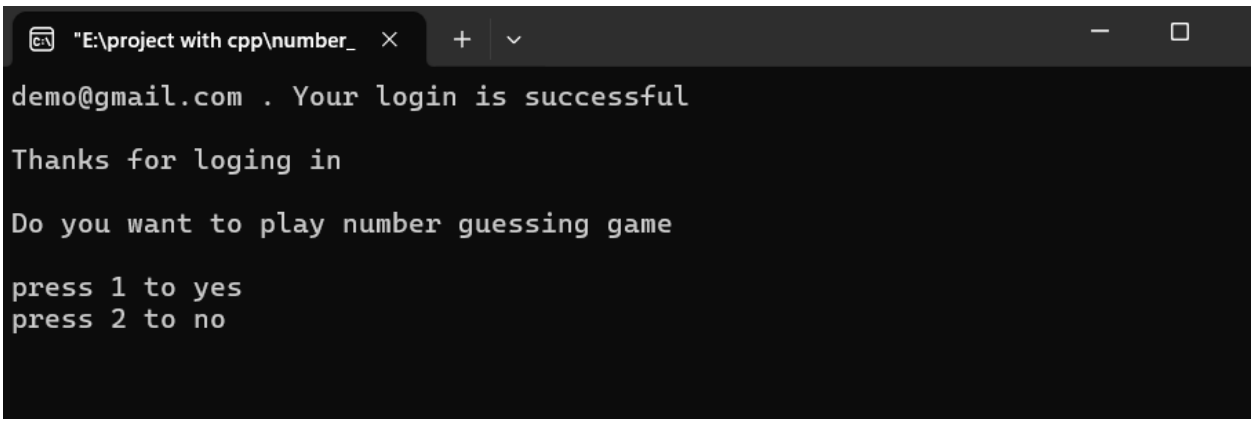
4. Registration successful (now we can login)



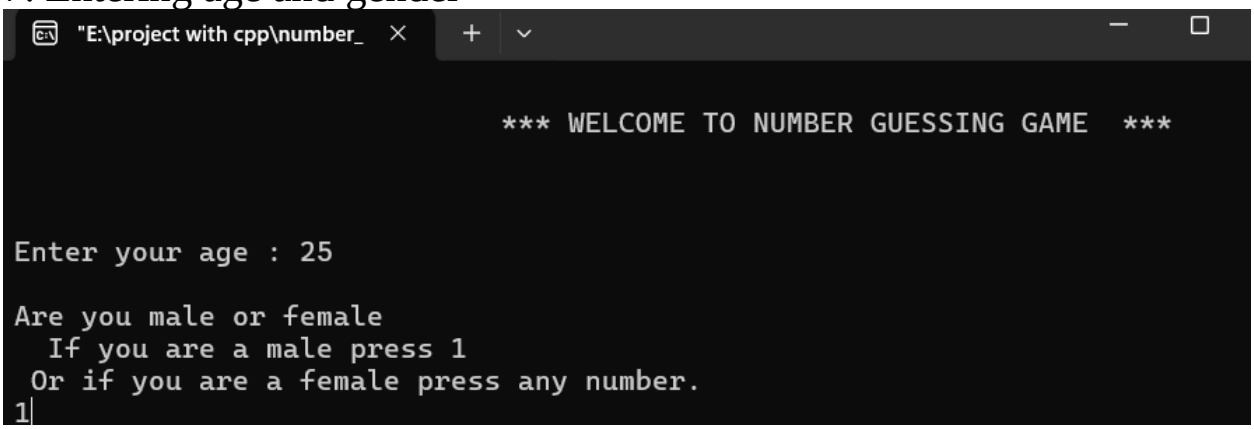
5. Login page



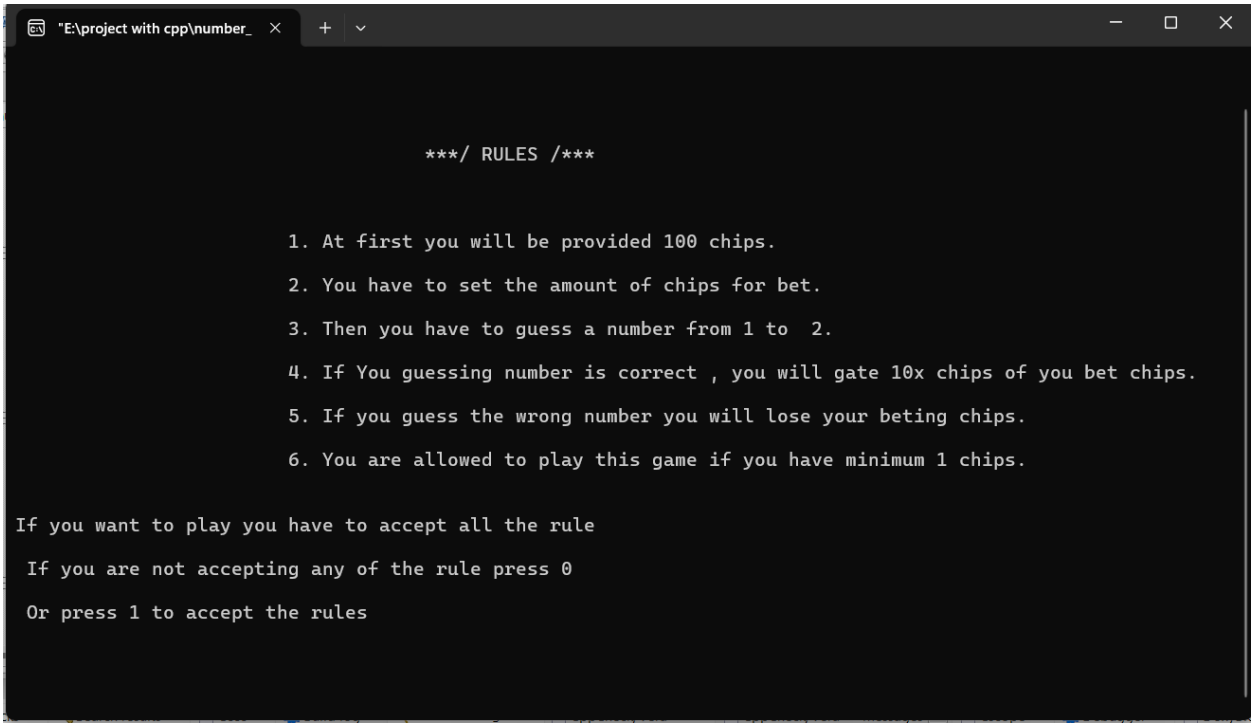
6. Login successful



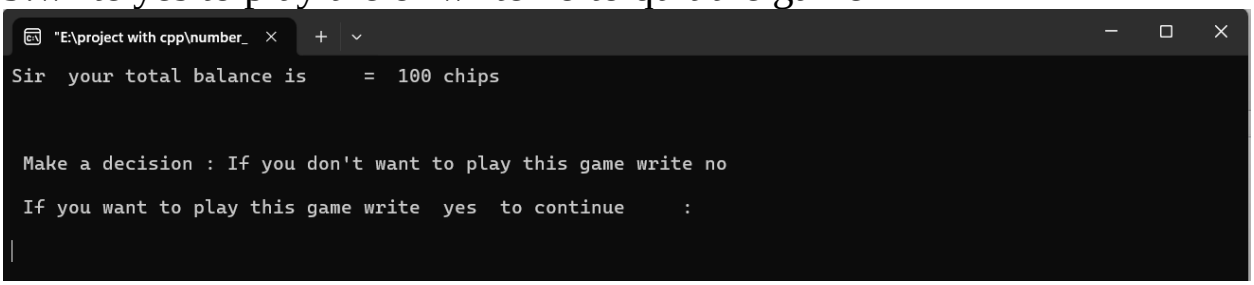
7. Entering age and gender



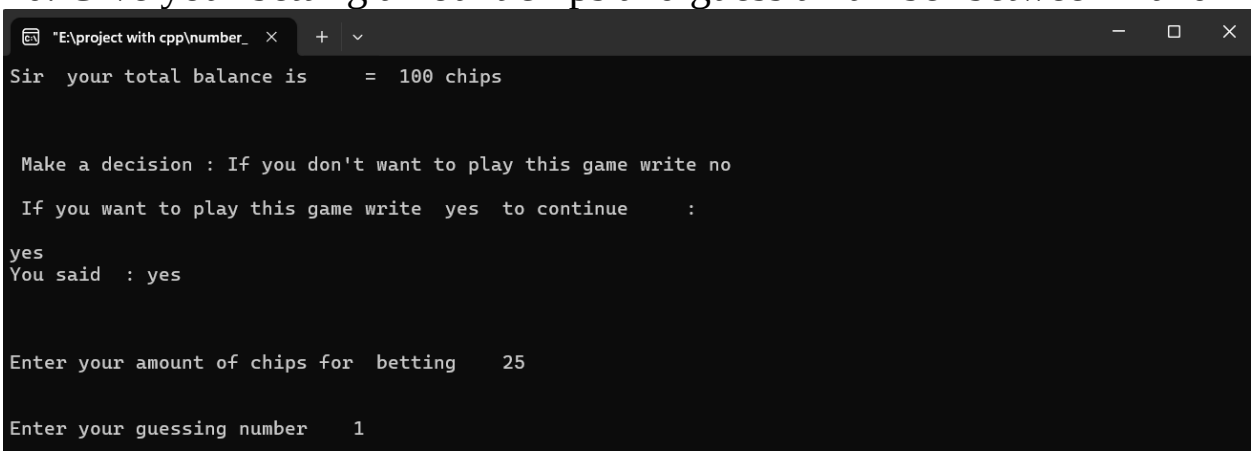
8.Number guessing game rules



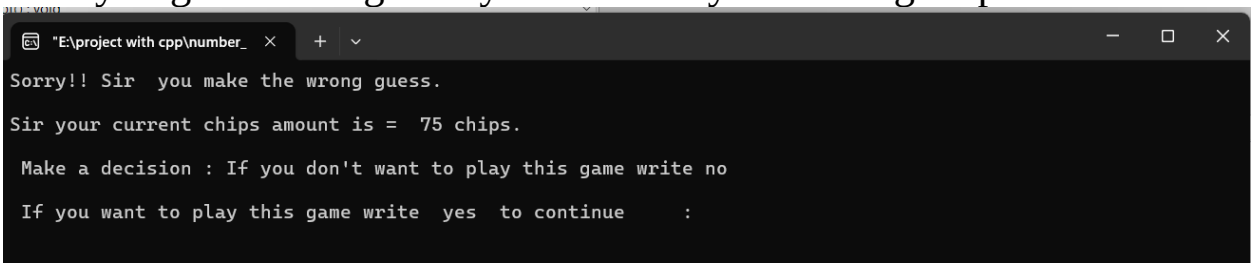
9.write yes to play the or write no to quit the game



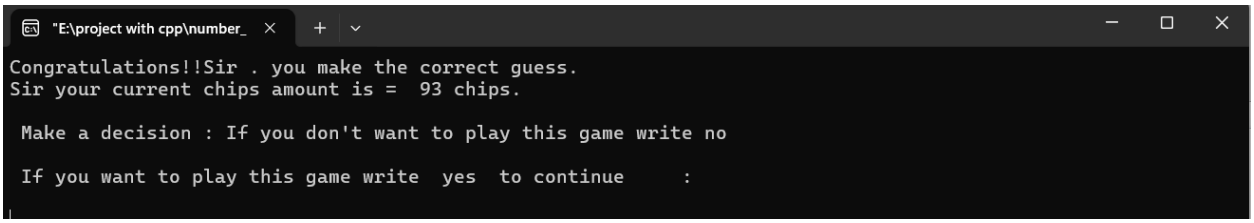
10. Give your betting amount chips and guess a number between 1 and 2



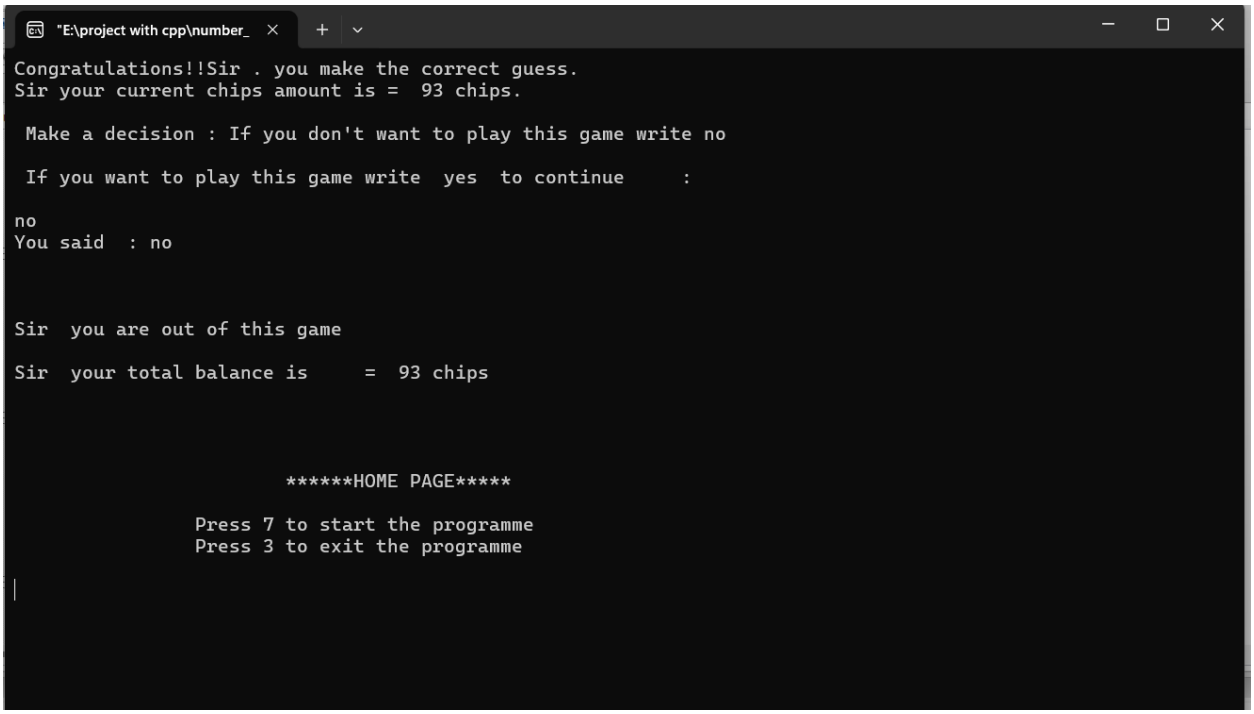
11.If you guess wrong then you will loss your betting chips



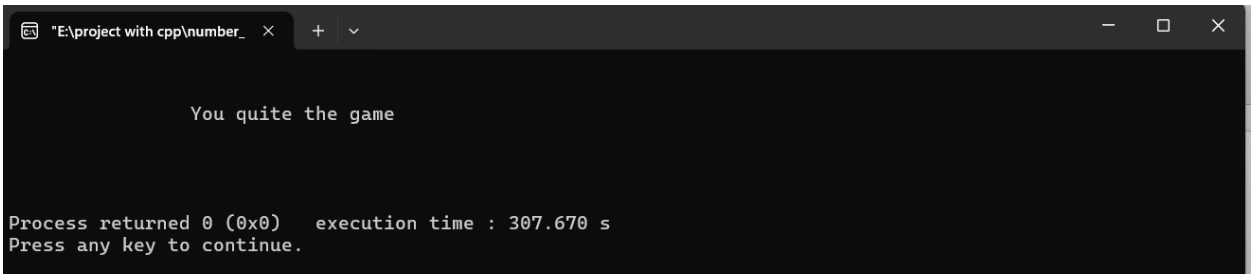
12.If you make the write guess then you will get 10x of your betting chips



13. If you write no then you will return to main function

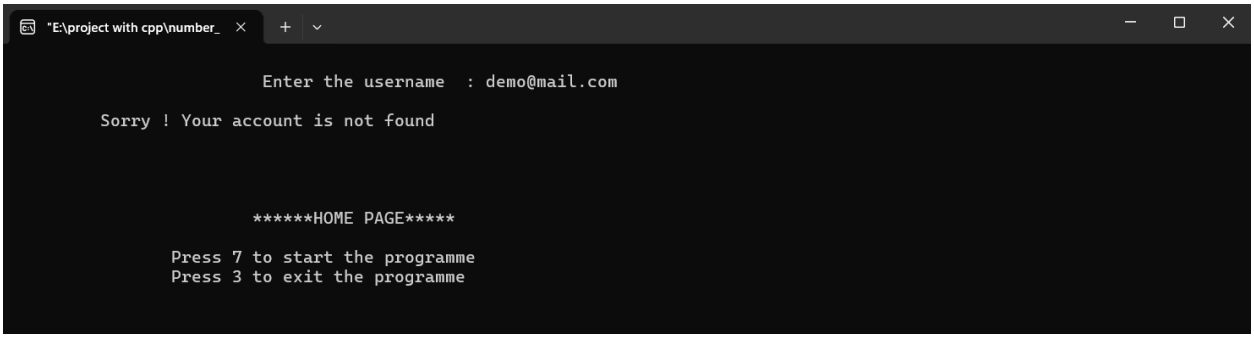


14.In main menu if you choose 3 then you will out of the programme

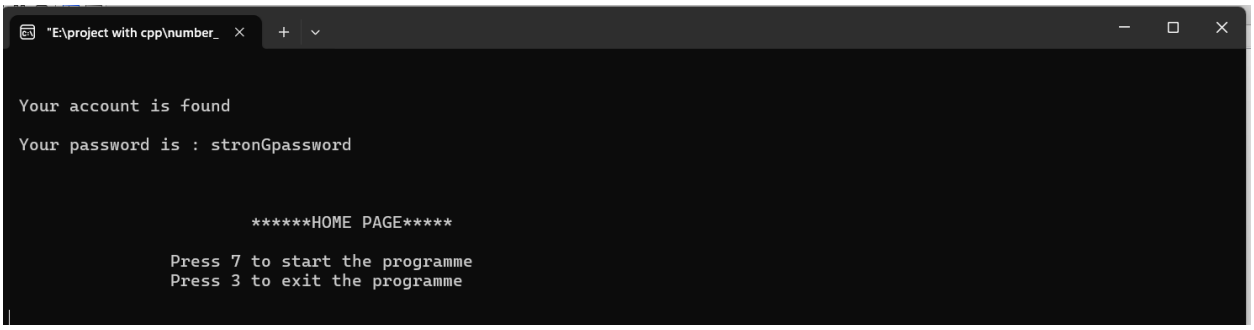


15.If you forgot the password then you can recover it trough your userid

16.If your userid doesn’t match then it will show



17.If userid match then it will show



Chapter – 7

7.1 – Conclusion

For developing this project we faced some difficulties which are solved by the directions of our honorable supervisor sir. We are still working it for adding some additional features to make this project more user friendly.

7.2 – Limitation

There are some limitation of this programme which are that if anyone gets access to the record.txt file they can easily see all the username and their correspondent password,constantly clearing screen with system(“cls”) may disrupt user experience,in this programme there is no identity verification (like email verification,security questions etc.)

7.3– Future work

I know the limitation of our project. So I can improve it in future. I will upload out code at github and open to edit. So that others can contribute to our code and make is more efficient.