**HANGMAN GAME**

**INTE 11223-PROGRAMMING CONCEPTS**

**FINAL PROJECT**

**DUE DATE-2021/11/06**

**GROUP NO-18**

**GROUP MEMBERS-**

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# About Game

This game is based on the childhood game hangman which we were played using papers. This game consist of 5 rounds in each round player is given a new word to guess. In order to guess the word a hint is given to the player. With our interface player can identify the number of letters that word has. Player has to guess the word letter by letter

For each round if player guess the word correctly, player can earn a point. If player fails to guess the word before displaying the full diagram of the hanged man. Player gets no point to that relevant round.

Maximum errors allowed for a round is 7. For each letter player guess incorrectly one line of the diagram (of the hanged man) is drawn.

After completing the 5 rounds results are displayed. If player get at least 3 points out of 5 points, player win the game.Graphical user interface, text

Description automatically generatedText, letter

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# How to Play

At the beginning of the program player must register to the game. Players need to create a username and password.

Then player can login using earlier created username and password.

After login, first round commences, and player can see the hint for the first word.

Then player must enter the first guess (letter). After that game displayed weather, the guess is correct or wrong.

Then the same step repeats until player guess the word correctly or player makes 7 mistakes.

Then player promoted to second round and same steps are followed.

At the end of all 5 rounds player can see the results.

# About the Code

Whole game runs within a loop, therefore program runs until player terminate the game.whe

When player register to the game registration information is stored in a file.

An array was used to store the words. In this game 20 words were stored in that array.

When selecting 5 words for 5 rounds, program select 5 random words from the array.

5 user defined functions are used in this program to print messages, print results and to draw the relevant diagrams.

# Challenges

Designing a console game with minimum graphics was really challenging.

After selecting HANGMAN as the game deciding the scoring method and game flow was challenging.

Initially we decided to run the game without clearing the screen. But we fount out that is not user friendly. Therefore we tried to use “clrscr()” function in conio.h header file but we wasn’t able to get the expected results using that. So we decided to use system(“cls”) to clear the screen.

Drawing the diagram of hanged man was really challenging because we had to draw any diagrams. Therefore we decided to use a function to draw the diagrams.

We could not able to display the answer with blanks dynamically. Therefore we had to create another array including underscores as blanks.

Further we could not able to find out a way to stop selecting same word when selecting the word randomly from the program

Initially we made the program to terminate after 5 rounds, but then we improved our code within a loop to run the game until player terminate the game.

# To Improve

* We can use more attractive graphics and interfaces
* Can use a separate database to store words and hints, then we can store many words.
* We can use audios.
* We can develop the game as a multiplayer game. By allowing several players to play simultaneously. Then we can compare each others results.

# Code

/\*

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Final Group Project

Due Date-2021/11/06

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Presentation Duration: 10 Minutes

It is expected you to demonstrate everything you have learned during this course in your final

project. It should be a fully-fledged C++ program, written entirely from the scratch by you,

satisfying the requirements specified below. Groups come up with any idea that they want for

the final project. Possible ideas include:

Games (can be multi-player or single-player):

Card games (e.g. Blackjack, Poker)

Reversi

Gomoku

Connect Four

Any other game

Your project should be large enough to take about 40-50 hours of coding.

It is very important that you write easily readable, well-designed code.

Submit a report, with some basic documentation and instructions on how to play your game.

Also include in this report what problems you had with your project, what the challenges

were, and what would you have done differently if you could do it again. Include your well

design code as an appendix to the report.

\*/

/\* Game name-HANGMAN

Features

Some features of the program are:

1. The console output of the program is presented in a neat and clean way.

2. The game is designed so that a word which has been asked, does not come up again, during a runtime.

3. The program uses many functions to make the transfer of control easier and hassle free.

4. The code has been written as per ANSI C++ standard, which makes it universally compatible.

5. This program is totally bug free and stable as suggested by results till date.

\*/

//The standard library files used

#include<iostream>

#include<fstream>

#include <vector>

#include <stdlib.h>

#include<conio.h>

using namespace std;

//All the function prototypes

void greet();//print greeting message

void start();//print starting message

void display\_misses(int misses);// print the diagram

void display\_status(vector<char> incorrect, string answer);

void end\_game(string answer, string codeword);//print results and ending message

//global variables

int marks = 0;

int main()//The main function

{

system("Color E5");

string

command,//store plyer,s answer for login or register

name, password,//variable to read data from file in login

inName, inPassword, //variables to hold inputs in login

registerName, registerPassword;//variables to store in file in registration process

//loop runs untill user close the program

while (1)

{

//initially asking to register or login

system("cls");

start();//print message

//get answer from the user wether to login or register

cout<<"Do you want to Register or Login?\n"<<"Type Here 0/1/2 (register = 1 / login = 2 / exit = 0) : ";

getline(cin, command);

//terminate the program

if (command=="0")

{

return 1;

}

//register player

if (command=="1")

{

ofstream g("registration.txt");

if (!g.is\_open())

{

cout<<"could not open file\n";

return 0;

}

cout<<"\n\n"

<<"New Username: ";

getline(cin, registerName);

cout<<"New Password: ";

getline(cin, registerPassword);

//save inputs in file

g<<registerName;

g<<'\n';

g<<registerPassword;

g.close();

}

//login and execute program

if (command=="2")

{

ifstream f("registration.txt");

if (!f.is\_open())

{

cout<<"could not open file\n";

return 0;

}

//read data from file

getline(f, name, '\n');

getline(f, password, '\n');

f.close();

//loop to check password and username

while (1)

{

//get password and username from player

cout<<"\n\n"

<<"Enter Username: ";

getline(cin, inName);

cout<<"Enter Password: ";

getline(cin, inPassword);

//check wether inputs are valid and correct

if (inName==name && inPassword==password)

{

system("cls");

cout<<" Login Successful!\n"<<" Welcome, "<<inName<<endl;

break;

}

cout<<"incorrect name or password\n";//if password and username is incorrect display message and loop continues

}

greet();//print message

//loop to execute 5 rounds

for(int i=0; i<5; i++){

int misses = 0, codeword\_element=0;

vector<char> incorrect;

bool guess = false;

char letter;//to store player enterd guess

//arrays containing words and hints

string codeword\_list[20] = {"shakespeare", "minuscule", "ornithology", "decency", "approval","Incorrectly","comb","needle", "palm","coin","Plate","Future","Racecar","Krone","Wellington","Vatican","Cambridge","Pineapple","Corona","Scientology"};

string question\_list[20] = {"HINT : Who wrote the Macbeth", "HINT : Similar word for extremely small", "HINT : What do we call the study of birds","HINT : Proper behaviour","HINT : Favourable opinion","HINT : What word is spelled incorrectly in every single dictionary?","HINT : I have teeth but can’t eat. What am I?","HINT : What has one eye but can’t see anything at all?","HINT : What kind of tree can you carry in your hand?","HINT : What has a head and a tail but no body?","HINT : People buy me to eat but never eat me?","HINT : I AM ALWAYS IN FRONT OF YOU BUT YOU CAN NEVER SEE ME. WHAT AM I?","HINT : Which vehicle is spelled the same forwards and backwards?","HINT : What is the currency of Denmark?","HINT : What is the capital of New Zealand?","HINT : What is the smallest country in the world?","HINT : Which English city was once known as Duroliponte?","HINT : In tennis, what piece of fruit is found at the top of the men's Wimbledon trophy?","HINT : What is the most famous Mexican beer?","HINT : Tom Cruise is an outspoken member of which religion?"};

string under\_score[20] = {"\_\_\_\_\_\_\_\_\_\_\_", "\_\_\_\_\_\_\_\_\_", "\_\_\_\_\_\_\_\_\_\_\_", "\_\_\_\_\_\_\_", "\_\_\_\_\_\_\_\_","\_\_\_\_\_\_\_\_\_\_\_","\_\_\_\_","\_\_\_\_\_\_","\_\_\_\_","\_\_\_\_","\_\_\_\_\_","\_\_\_\_\_\_","\_\_\_\_\_\_\_","\_\_\_\_\_","\_\_\_\_\_\_\_\_\_\_","\_\_\_\_\_\_\_","\_\_\_\_\_\_\_\_\_","\_\_\_\_\_\_\_\_\_","\_\_\_\_\_\_","\_\_\_\_\_\_\_\_\_\_\_"};

cout<<"======================================Round "<<(i+1)<<"=========================================="<<endl<<endl;

string codeword = codeword\_list[rand()%20];// selecting a random word from the codeword\_list array

for(int x=0; x<20; x++){

if(codeword\_list[x] == codeword){

codeword\_element = x;//used to identify selected word

}

}

string answer = under\_score[codeword\_element];//answer in blanks

//loop to get guesses and check

while(answer!=codeword && misses < 7)

{

cout<<question\_list[codeword\_element]<<endl;//display hint

display\_misses(misses);//display diagram

display\_status(incorrect, answer);//display wrong guesses and answer

//input guess from player

cout<<"\n\nPlease enter your guess: ";

cin>>letter;

//check wheter the guess matches any letter in the given word

for(int i = 0; i<codeword.length(); i++)

{

if(letter==codeword[i])

{

answer[i] = letter;//replase blanks in answer with guessed words

guess = true;

}

}

//display correct

if(guess)

{

cout<<"\nCorrect!\n";

}

//display wrong

else

{

cout<<"\nIncorrect! Another portion of the person has been drawn.\n";

incorrect.push\_back(letter);

misses++;

}

guess = false;

//pause program untill user press any key

cout<<"\n\npress any key to continue"<<endl;

getch();

system("cls");

}

//end the round

end\_game(answer, codeword);//disply results of the round

//pause program untill user press any key

cout<<"\n\npress any key to continue"<<endl;

getch();

system("cls");

}

// at the end of 5 rounds display game results

cout<<"You have earned "<<marks<<" Out of 5 marks"<<endl;

if(marks>=3){

cout<<"Congratulations! You won the Game!"<<endl;

}

else{

cout<<"You Lost!"<<endl;

}

cout<<"\n\npress any key to continue"<<endl;

getch();

}

cout<<"\n\n\n\n\n";

}

return 1;

}

//function to print main menu of the program

void greet(){

cout<<"=======================================================================================\n";

cout<<" The Hangman Game\n";

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

cout<<" You are given 5 HINTS to guses 5 CODEWORDS."<<endl;

cout<<" Save yourself from being hanged by guessing letter by letter in the codewords. "<<endl;

cout<<" For each and every wrong guess, Hangman will complete with one part. "<<endl;

cout<<" Guess the whole CODEWORD without fully hanging, to earn one point. "<<endl;

cout<<" Player should earn atleast 3 marks out of 5 to WIN the game. "<<endl<<endl;

cout<<" If you are new player, Register and then again Log into the game."<<endl;

cout<<" GOODLUCK!"<<endl<<endl;

}

//function to print starting message

void start(){

cout<<" =====REGISTRATION & LOGIN====="<<endl<<endl;

cout<<"To play or play again the game, First you have to log into the game using Username & Password."<<endl;

cout<<" If you are new to the game first register and then log again."<<endl<<endl;

}

//function to print diagram according to number of misses

void display\_misses(int misses)

{

if(misses==0)

{

cout<<" +---+ \n";

cout<<" | | \n";

cout<<" | \n";

cout<<" | \n";

cout<<" | \n";

cout<<" | \n";

cout<<" ========= \n";

}

else if(misses==1)

{

cout<<" +---+ \n";

cout<<" | | \n";

cout<<" O | \n";

cout<<" | \n";

cout<<" | \n";

cout<<" | \n";

cout<<" ========= \n";

}

else if(misses==2)

{

cout<<" +---+ \n";

cout<<" | | \n";

cout<<" O | \n";

cout<<" | | \n";

cout<<" | \n";

cout<<" | \n";

cout<<" ========= \n";

}

else if(misses==3)

{

cout<<" +---+ \n";

cout<<" | | \n";

cout<<" O | \n";

cout<<" /| | \n";

cout<<" | \n";

cout<<" | \n";

cout<<" ========= \n";

}

else if(misses==4)

{

cout<<" +---+ \n";

cout<<" | | \n";

cout<<" O | \n";

cout<<" /|\\ | \n";

cout<<" | \n";

cout<<" | \n";

cout<<" ========= \n";

}

else if(misses==5)

{

cout<<" +---+ \n";

cout<<" | | \n";

cout<<" O | \n";

cout<<" /|\\ | \n";

cout<<" / | \n";

cout<<" | \n";

cout<<" ========= \n";

}

else if(misses==6)

{

cout<<" +---+ \n";

cout<<" | | \n";

cout<<" O | \n";

cout<<" /|\\ | \n";

cout<<" / \\ | \n";

cout<<" | \n";

cout<<" ========= \n";

}

}

//function to display incorrect guesses and answer with blanks

void display\_status(vector<char> incorrect, string answer)

{

cout<<"Incorrect Guesses: \n";

for(int i = 0; i<incorrect.size(); i++)

{

cout<<incorrect[i]<<" ";

}

cout<<"\nCodeword:\n";

for(int i = 0; i<answer.length(); i++)

{

cout<<answer[i]<<" ";

}

}

//function to display results end of the round

void end\_game(string answer, string codeword)

{

if(answer==codeword)

{

cout<<"codeword : "<<codeword<<endl<<endl;

cout<<" Hooray! You saved yourself from being hanged and earned a point!\n"<<endl;

marks = marks + 1;

}

else

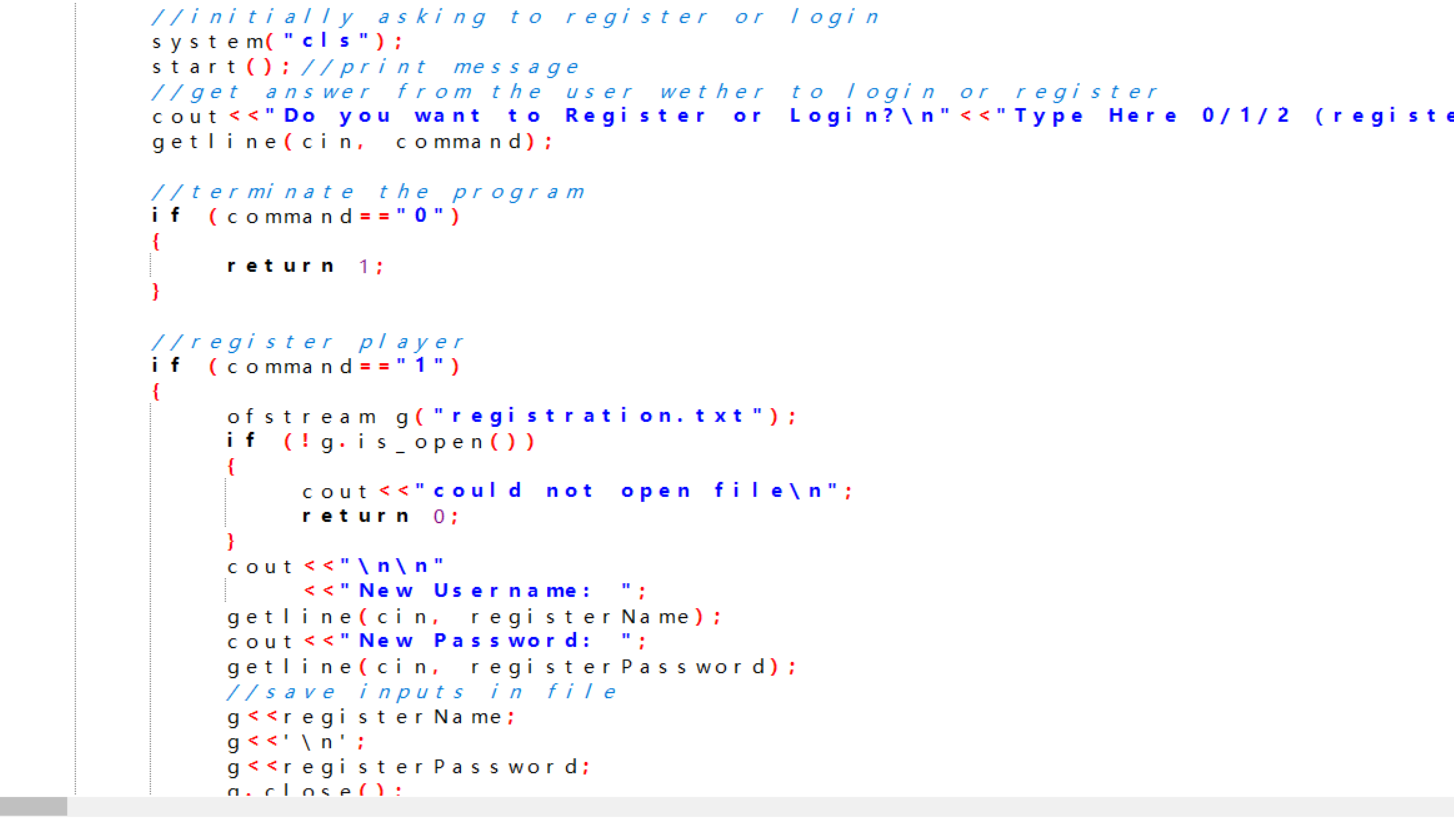
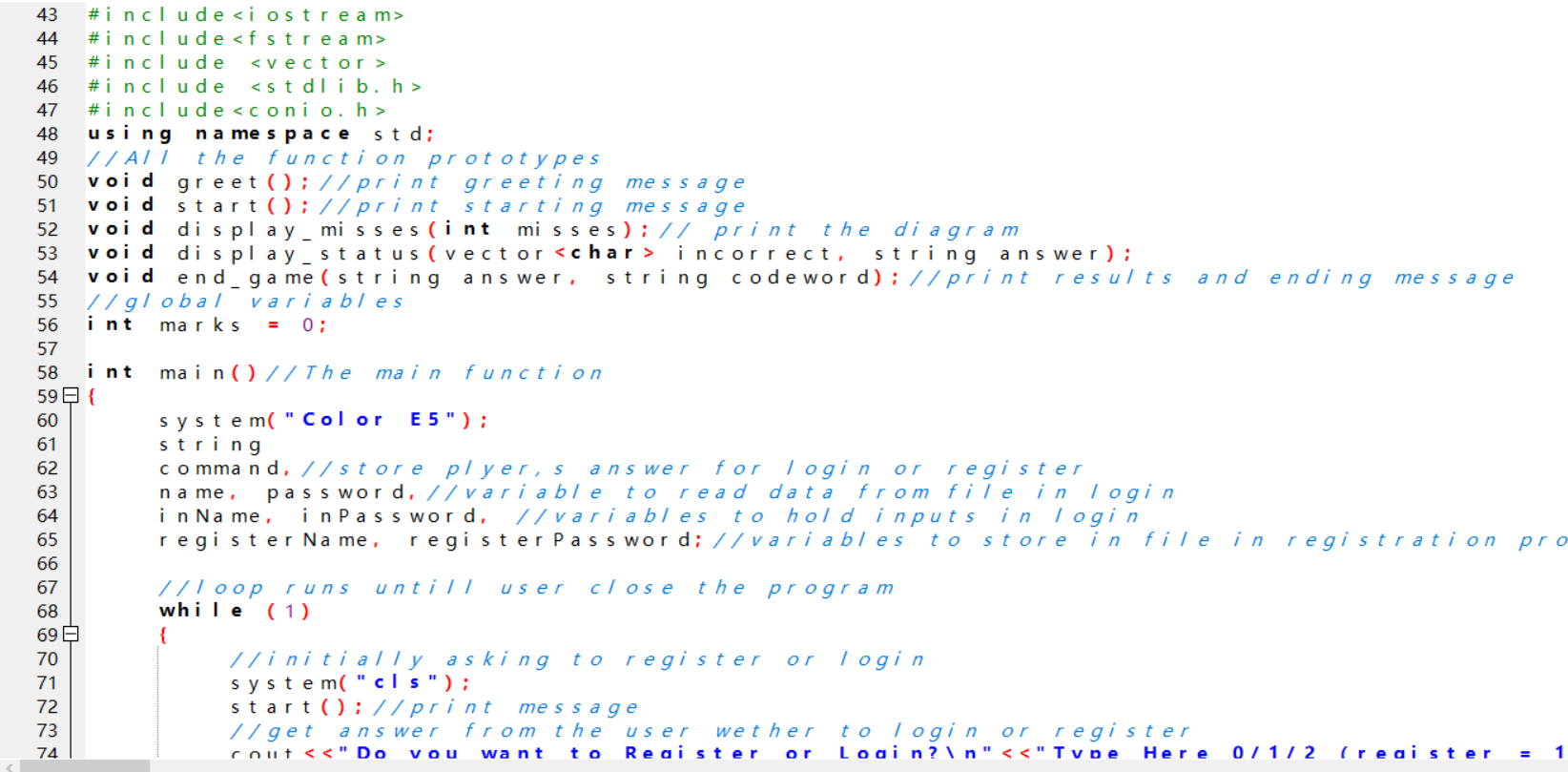
{

cout<<"codeword : "<<codeword<<endl<<endl;

cout<<"On no! The man is hanged!\n";

}

}

Text

Description automatically generated