

THE HINDU SENIOR SECONDARY SCHOOL
CHENNAI-20

**COMPUTER SCIENCE
PROJECT**

E-Carnival



DONE BY:

S. AKSHAYA

SHREYAA RAGHAVAN

XII-A



The Hindu Senior Secondary School

(A unit of The Hindu Educational Organisation)

Indira Nagar, Chennai - 20.

BONAFIDE CERTIFICATE

This is to certify that this project is a bonafide work of

S.Akshaya

Shreyaa Raghavan

Of XII-A at The Hindu Senior Secondary School, Indira Nagar, Adyar, Chennai- 600020 during the academic year 2019-2020.

**INTERNAL
EXAMINER**

**EXTERNAL
EXAMINER**

ACKNOWLEDGEMENT

We are extremely thankful to our computer science teacher Mrs.V.Dhanalakshmi for having assisted us in the successful completion of this project by providing us with guidance, encouragement and valuable consent.

We also extend our gratitude to our Principal Mrs. Padmini Sriraman, our Vice Principal Mrs. Chandra Chandrashekharan and our school management for giving us the opportunity to use all the excellent facilities of the computer science laboratory for the completion of this project.

CONTENTS

<i>S.NO</i>	<i>TITLE</i>
1	Introduction
2	System Requirements
3	Functions used
4	Flow Chart
5	Source Code
6	Screens
7	Conclusion

FOR THE USER: THEME: CARNIVAL

INSTRUCTIONS

1 There are three level in this game

LEVEL 1: Riddles

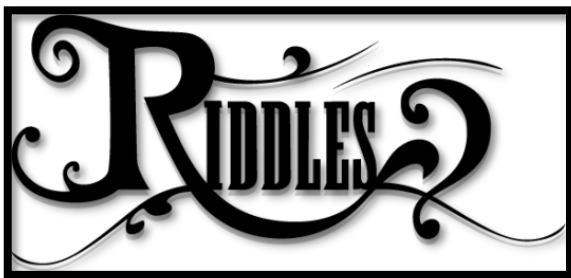
LEVEL 2: Sudoku

LEVEL 3: Hangman

2 You can move on to the successive levels only if you finish the previous level.

3 You will have 2 chances to complete each level.

4 In case you lose both times, you can try spinning the **WHEEL OF LUCK** to win another chance. If the 3 numbers spun are the same, you will get another chance. Else you have to start over again.



FOR THE ADMIN:

1 Admin can add new

- a) Questions in Riddles
- b) New Sudoku grid
- c) Additional words in Hangman

2 You need to give the username and password correctly for verification purpose

USER ID	admin01
PASSWORD	ratatouille

SYSTEM REQUIREMENT

OPERATING SYSTEM	Microsoft Windows 7 Ultimate
SYSTEM TYPE	X86-based PC
RAM	4.00 GB
HARD DISK SPACE	2.14 GB
PROCESSOR	Intel(R) Pentium(R) CPU G2020 @ 2.90GHz, 2900 Mhz, 2 Core(s), 2 Logical Processor(s)
IDE AND COMPILER	TURBO C++ 4.5

FUNCTIONS USED:

1)int level1::ret()

Function returns value of question (riddle) number of the record read to the calling place.

2) char* level1::ret1()

Function returns riddle question to calling place. Used to display the question.

3) char* level1::ret2()

Function returns riddle answer to calling place. Used to check entered answer.

4)void level1::input()

Used to input question number, question and the corresponding answer (in admin mode).

5)int level2::retn()

Function returns value of word number of record read to calling place.

6)char* level2::retw()

Function returns word to calling place. Used to display hangman question.

7)void level2::input()

Used to input word number and word for hangman questions (in admin mode).

8)int level3::ret()

Function returns serial number of record read to calling place.

9)void level3::input()

Used to input the 2-D question array and answer array for Sudoku (in admin mode).

10)int spintthewheel(int moves)

Function used to spin the wheel and give one more chance by generating 3 random numbers.

11)int riddles()

Function used to run the first level of the game-riddles. Used to display the riddle questions, get the answers and check if entered answer is correct or not.

12)int sudoku()

Function used to run the second level of the game. Used to display the Sudoku question, get the user's answers and check if entered numbers are entered correctly in the right positions.

13)void games()

The function that calls the functions of the respective levels of the game and check if user can move on to the next level. If not, the function invokes spintthewheel function. If user doesn't win any chances, ends the game.

14)void hangman()

Function used to run the final level of the program-hangman. Used to display the hangman question, get the letters guessed by the user and checks the entered character.

ALGORITHM

1 Start

2 Display menu: admin/user

3 If admin

3.1 If user id and password are correct

3.1.1 Display menu: Add question to riddles / sudoku / hangman

3.1.2 Attach file according to the admin's choice and add questions

3.2 Else

3.2.1 Exit

4 Else

4.1 Call games()

5 Stop

void games()

1. Call riddles()

1.1 If return value of riddles() > or = 4

1.1.1 Call sudoku()

1.1.1.1 If turn!=0

1.1.1.1.1 Call hangman()

1.1.1.1.1.1 If turn!=0

1.1.1.1.1.1.1 Exit //The user won

1.1.1.1.1.2 Else if turn =1

1.1.1.1.1.2.1 Call hangman

1.1.1.1.1.3 Else if turn=0

1.1.1.1.1.3.1 Call spinhewheel()

1.1.1.1.1.3.1.1 If result=0

1.1.1.1.1.3.1.1.1 Exit//lost

1.1.1.1.1.3.1.2 Else

1.1.1.1.1.3.1.2 Call hangman()

1.1.1.2 Else if turn=1

1.1.1.2.1 Call sudoku()

1.1.1.3 Else if turn=0

1.1.1.3.1 Call spinhewheel()

1.1.1.3.1.1 If result=0

1.1.1.3.1.1.1 Exit(0)//lost

1.1.1.3.1.2 Else

1.1.1.3.1.2 Call sudoku()

1.2 Else if turn=1

1.2.1 Call riddles ()

1.3 Else if turn=0

1.3.1 Call spinhewheel()

1.3.1.1 If result=0

1.3.1.1.1 Exit(0)//lost

1.3.1.2 Else

1. 3.1.2.1 Call riddles()

2. End

void riddles()

1. Begin
2. Select 5 numbers randomly from the attached file
3. Display the respective questions

4. Count the number of correct answers
5. Return the number
6. End

void sudoku()

1. Begin
2. Select one sudoku randomly from the attached file
3. Display the question
4. Get input for answer from user
5. If the answer matches return 25 to the calling place
6. Else return some other number
7. End

void hangman()

1. Begin
2. Randomly select a word for hangman from the attached file
3. Ask the user for guesses
4. If the user is wrong for 7 times
 - 4.1 decrement turn
5. End

void spintthewheel()

1. Begin
2. Generate 3 random numbers
3. If the three are equal
 - 3.1 Return 1
4. Else
 - 4.1 Return 0
5. End

SOURCE CODE

```
/*
E-CARNIVAL PROGRAM
Done by S.Akshaya and Shreyaa Raghavan
*/

//Header files
#include<iomanip.h>
#include<fstream.h>
#include<stdio.h>
#include<stdlib.h>
#include<ctype.h>
#include<conio.h>
#include<string.h>
#include<dos.h>
int turn=2;
class level1{int sno;
    char q[100];
    char a[25];
    public: int ret(){return sno;}
        char* ret1(){return q;}
        char* ret2(){return a;}
        void input(){ cout<<"Enter question number:";
            cin>>sno;
            cout<<"Enter riddle question:\n";
            gets(q);
            cout<<"Enter corresponding answer:\n";
            cin>>a;}
    }1;

class level2{int wno;
    char wor[20];
    public: int retn(){return wno;}
        char* retw(){return wor;}
        void input(){cout<<"Enter word number: ";
            cin>>wno;
            cout<<"Enter word:";
            gets(wor);}
    }2;

class level3{int sno;
    public: int q[5][5],a[5][5];
        int ret(){return sno;}
        void input();
    }3;

void level3::input()
```

```

{
    int i,j;
    for(i=0;i<5;i++)
        for(j=0;j<5;j++)
        {
            cout<<"\nEnter for "<<(i+1)<<' '<<(j+1)<<": ";
            cin>>q[i][j];
        }

    for(i=0;i<5;i++)
    {
        for(j=0;j<5;j++)
        {
            if(q[i][j]==0)
                cout<<" ";
            else
                cout<<q[i][j]<<" ";
        }
        cout<<'\n';
    }

    for(i=0;i<5;i++)
        for(j=0;j<5;j++)
        {
            cout<<"\nEnter for "<<(i+1)<<' '<<(j+1)<<": ";
            cin>>a[i][j];
        }

    for(i=0;i<5;i++)
    {
        for(j=0;j<5;j++)
        {
            if(a[i][j]==0)
                cout<<" ";
            else
                cout<<a[i][j]<<" ";
        }
        cout<<'\n';
    }

    getch();
}

```

```

void games();

```

```

int spinthewheel(int moves)
{
    int a,b,c;
    if(moves==1)

```

```

{
    a=random(2);
    b=random(2);
    c=random(2);
}
cout<<"Ready to spin the wheel?\n";
getch();
cout<<(a+1)<<"\t"<<(b+1)<<"\t"<<(c+1);
getch();
if((a==b)&&(b==c))
    return 1;
else
    return 0;
}

int sudoku()
{
    int i,n,s,j,posx,posy,num,count=0,a[5][5],b[5][5];
    char ch;
    ifstream f3("sudoku.dat",ios::binary|ios::in);
    if(f3)
    {
        while(f3.read((char*)&l3,sizeof(l3)))
            n++;
        f3.clear();
        f3.seekg(0);
        s=random(n);
        f3.seekg(sizeof(l3)*(s+1),ios::beg);
        if(l3.ret()!=(s+1))
            f3.read((char*)&l3,sizeof(l3));

        for(i=0;i<5;i++)
            for(j=0;j<5;j++)
            {
                b[i][j]=l3.q[i][j];
                a[i][j]=l3.a[i][j];
            }

        do
        {
            cout<<"\n"<<"-----"<<"\n";

            for(i=0;i<5;i++)
            {
                for(j=0;j<5;j++)
                {
                    if(b[i][j]==0)
                        cout<<" "<<"|";
                    else
                        cout<<b[i][j]<<" "<<"|";
                }
            }
        } while(1);
    }
}

```



```

    }
    cout<<"\n'<<"-----"<<"\n';
}

cout<<"\nEnter row number and column number into which you want to enter a number\n";
cin>>posx>>posy;
cout<<"\nEnter the number to be entered in the above position\n";
cin>>num;

if(a[posx-1][posy-1]!=num)
    cout<<num<<"\nWrong";//,it is "<<a[posx-1][posy-1];
else
{
    b[posx-1][posy-1]=num;
    cout<<"Correct!\n";
    count++;
}
getch();
clrscr();
cout<<"If you want to continue enter 'n'. If you are done enter 'y': ";
cin>>ch;
}while(ch=='n');

count=0;
for(i=0;i<5;i++)
    for(j=0;j<5;j++)
        if(a[i][j]==b[i][j])
            count++;

if(count==25)
{
    turn=-10;
    cout<<"\nYou won the second level as well!";
}

else
{
    turn=-1;
    cout<<"\nGAME OVER.";
    for(i=0;i<5;i++)
    {
        for(j=0;j<5;j++)
        {
            if(a[i][j]==0)
                cout<<" ";
            else
                cout<<a[i][j]<<" ";
        }
        cout<<"\n";
    }
}
return count;

```

```

    }
    else cout<<"File not opened";
}

int riddles()
{
    randomize();
    int i,r[5],j,no=0,ct=0;
    char ans[5],ridques=0,quest[50];
    ifstream f2("riddle.dat",ios::binary|ios::in);
    while(f2.read((char*)&l1,sizeof(l1)))
        no++;
    f2.clear();
    f2.seekg(0);
    for(i=0;i<5;i++)
    {

        r[i]=random(no);
        for(j=0;j<i;j++)
        {
            while(1)
            {
                if(r[i]==r[j])
                    r[i]=random(no);
            else
                break;
            }
        }
        f2.clear();
        f2.seekg(0);

        while(f2.read((char*)&l1,sizeof(l1)))
            if(l1.ret()==r[i])
                break;

        strcpy(quest,l1.ret1());
        cout<<quest<<"\n";
        gets(ans);
        cout<<"\n";
        if(strcmp(l1.ret2(),ans)==0)
        {
            ct++;
        }
        ridques++;

    }
    return ct;
}

```

```

void hangman()
{
    int miss=7,i,check,count=0,p,n=0,r;
    char c,word[2],quest[20],answ[20];

    ifstream f2("dictiona.dat",ios::binary|ios::in);
    if(f2)
    {
        while(f2.read((char*)&l2,sizeof(l2)))
            n++;
        f2.clear();
        f2.seekg(0);
        p=random(n)+1;
        while(f2.read((char*)&l2,sizeof(l2)))
        {
            if(l2.retn()==p)
            {
                strcpy(quest,l2.ret看());
                break;
            }
            count++;
        }
        f2.close();
        for(i=0;i<strlen(quest);i++)
            if(quest[i]!=' ')
                answ[i]=' ';
            else
                answ[i]='_';
            answ[i]='\0';

        while(miss>0)
        {
            check=0;
            for(i=0;i<strlen(quest);i++)
                cout<<answ[i]<<" ";
            cout<<"\n\n";
            cout<<"Guess a letter: ";
            cin>>c;
            for(i=0;i<strlen(quest);i++)
            {
                if(quest[i]==c)
                {
                    cout<<"Correct guess!\n";
                    getch();
                    check=1;
                    answ[i]=c;
                    r=strcmpi(answ,quest);
                    if(r==0)
                        break;
                }
            }
            if(r==0)

```

```

        break;
    }
    if(check==0)
    {
        miss-=1;
        cout<<"miss: "<<miss<<"\n";
    }
    if(r==0)
        break;
}
if(strcmpi(quest,answ)==0)
{
    clrscr();
    turn=-10;
    cout<<"Full correct!\n";
    cout<<"The word is ";
    for(i=0;i<strlen(quest);i++)
        cout<<answ[i];
}
else
    turn-=1;
}
else
    cout<<"File not opened";
}

void main()
{
    randomize();
    char username[20],password[15];
    int choice;
    cout<<"MENU:\n1.admin\n2.user\n";
    cin>>choice;
    if(choice==1)
    {
        char word[20];
        ifstream f1("admin.txt");
        cout<<"User id: ";
        cin>>username;
        f1>>word;
        if(strcmpi(word,username)==0)
        {
            cout<<"\nPassword: ";
            cin>>password;
            f1>>word;
            if(strcmpi(word,password)!=0)
            {
                cout<<"Check the entered password";
                cout<<"\nPassword: ";
                cin>>password;
                if(strcmpi(word,password)!=0)

```

```

    exit(0);
    else
    {
        char ch;
        cout<<"correct!";getch();
    do{
        cout<<"\n\nWhat do u want to do?";
        cout<<"\nMENU:\n1)Add words to hangman dictionary\n2)Add more riddles\n";
        cout<<"3)Add sudoku\n4)Exit\nEnter choice:";
        cin>>ch;
        if(ch==1)
        {
            ofstream f2("dictiona.dat",ios::binary|ios::app);
            char ch;
            do{
                l2.input();
                f2.write((char*)&l2,sizeof(l2));
                cout<<"Do you want to enter more? Enter y for yes:";
                cin>>ch;
            }while(ch=='Y' || ch=='y');
        }
        else if(ch==2)
        {
            ofstream f1("riddle .dat",ios::binary|ios::app);
            if(f1)
            {
                char ch;
                do
                {
                    l1.input();
                    f1.write((char*)&l1,sizeof(l1));
                    cout<<"Enter y to enter more:";
                    cin>>ch;
                }while(ch=='y' || ch=='Y');
                f1.close();
            }
        }
        else if(ch==3)
        {
            ofstream f3("sudoku.dat",ios::binary|ios::app);
            if(f3)
            {
                char ch;
                do{
                    l3.input();
                    f3.write((char*)&l3,sizeof(l3));
                    cout<<"Enter y to enter more:";
                    cin>>ch;
                    ch=tolower(ch);
                }while(ch=='y');
            }
        }
    }
}

```

```

}
else
    exit(0);
}while(ch>=1&&ch<=3);
}

}
else
{
    int ch,num;
    cout<<"correct!";
    getch();
    do{
        cout<<"\n\nWhat do u want to do?";
        cout<<"\nMENU:\n1)Add words to hangman dictionary\n2)Add more riddles\n";
        cout<<"3)Add sudoku\n4)Exit\nEnter choice:";
        cin>>ch;
        if(ch==1)
        {
            ofstream f2("dictiona.dat",ios::binary|ios::app);
            char ch,word[20];
            do{
                l2.input();
                f2.write((char*)&l2,sizeof(l2));
                cout<<"Do you want to enter more? Enter y for yes:";
                cin>>ch;
            }while(ch=='Y' || ch=='y');
        }
        else if(ch==2)
        {
            ofstream f1("riddle .dat",ios::binary|ios::app);
            if(f1)
            {
                char ch;
                do
                {
                    l1.input();
                    f1.write((char*)&l1,sizeof(l1));
                    cout<<"Enter y to enter more:";
                    cin>>ch;
                }while(ch=='y' || ch=='Y');
                f1.close();
            }
        }
    }
    else if(ch==3)
    {
        ofstream f3("sudoku.dat",ios::binary|ios::app);
        if(f3)
        {
            char ch;
            do{
                l3.input();

```

```

        f3.write((char*)&l3,sizeof(l3));
        cout<<"Enter y to enter more:";
        cin>>ch;
        ch=tolower(ch);
        }while (ch=='y' );
    }
}
else
    exit(0);
}while(ch>=1&&ch<=3);
}
}
else
{
    cout<<"\nID not existing";
    getch();
    exit(0);
}
}

games();
}

```

```

void games()
{
    cout<<"Welcome to";
    cout<<"\n"<<"\n"<<"\n"<<"\t"<<"\t"<<"\t";
    cout<<"E-CARNIVAL";
    clrscr();
    int result,spin=1,r;
    randomize();

    cout<<"LEVEL 1:\n";
    cout<<"\t\t\tRIDDLES\n";
    getch();
    clrscr();
    do
    {
        r=riddles();
        if(r>=4)
        {
            turn=-10;
            cout<<"You won the first level of the game!\n";//Points: "<<r<<" /5\n";
            getch();
            break;
        }
    }
    else if(r<4)
    {
        cout<<"lost\n";
        turn-=1;
    }
}

```

```

}

getch();
clrscr();
if(turn==1)
{
    cout<<"Try again:):\n";
    r=riddles();
    if(r>=4)
    {
        turn=-10;
        cout<<"Won ";//with points: "<<r<<"in second attempt";
    }
    else
    {
        cout<<"\nOOOPS!Looks like you lost again!";
        turn=0;
    }
    break;
}
}while(turn==1);
clrscr();

if(turn==0)
{
    cout<<"\nSpinning the wheel of luck.....\n";
    result=spinhewheel(spin);
    if(result==1)
    {
        cout<<"\nWon moves from spinning the wheel!";
        riddles();
    }
    else
    {
        cout<<"\nTough luck.No moves. Better luck next time!:";
        exit(0);
    }
}
getch();
clrscr();
turn=2;
r=0;

cout<<"LEVEL 2\n";
cout<<"\n\n\n\t\t\tSUDOKU\n";
getch();
clrscr();

do
{
    if(turn==1)

```



```

        cout<<"Ooops.. Try again.:\n";
        r=sudoku();
    }while(turn>0);

    if(turn==0)
    {
        cout<<"spin\n";
        spin=1;
        result=spintthewheel(spin);
        if(result==1)
        {
            cout<<"You won 1 chance more from spinning the wheel!:\n";
            clrscr();
            sudoku();
            if(turn==10)
            cout<<"You made it! You completed the second level as well!\n";
        }
        else
            cout<<"Tough luck.You didnt win any moves from spinning the wheel.\n";
            cout<<"Better luck next time.\n";
            exit(0);
    }

    cout<<"LEVEL 3, the final level is....:";
    cout<<"\n\n\n\t\t\tHANGMAN";
    getch();
    clrscr();
    hangman();
    do
    {
        if(turn==1)
        {
            clrscr();
            cout<<"1 chance more\n";
            hangman();
        }
    }while(turn>0);

    if(turn==10)
    {
        clrscr();
        cout<<"\n\n\n\t\t\tYou made it! You are the Winner!";
        cout<<"You won all three levels!";
        cout<<"\nCongrats and thank you for playing our game!\n";
        exit(0);
    }

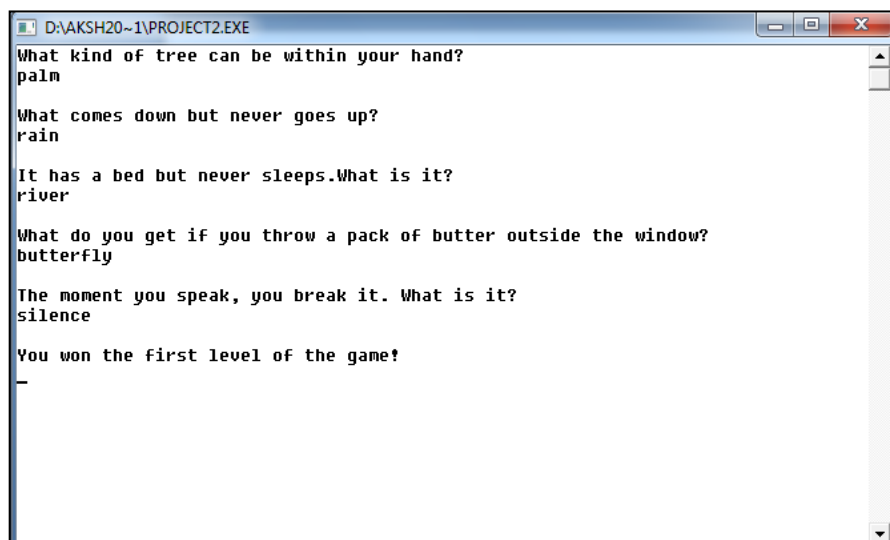
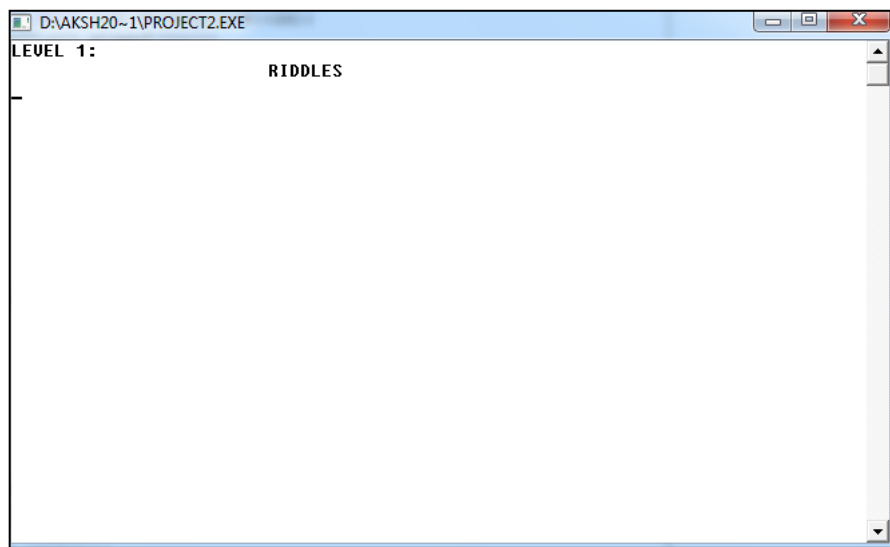
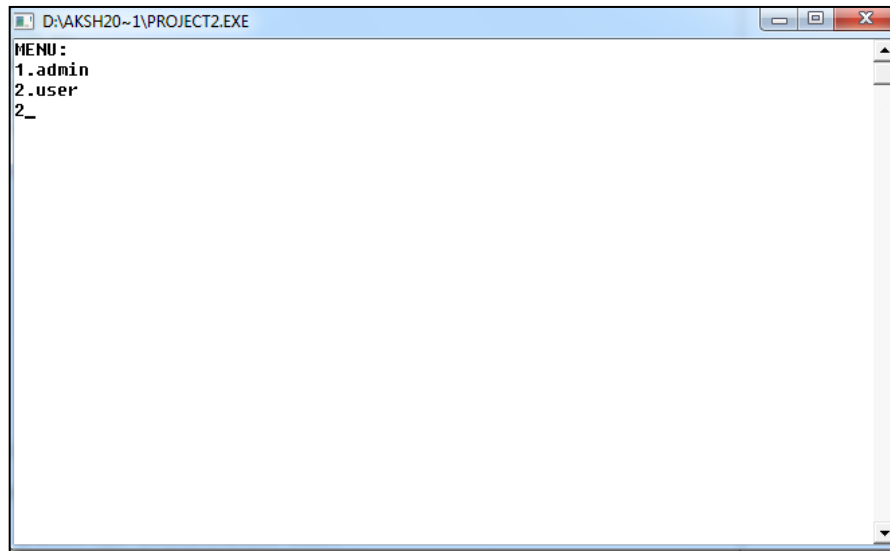
    if(turn==0)
    {
        cout<<"Spinning the wheel of luck.....\n";
        spin=1;
    }

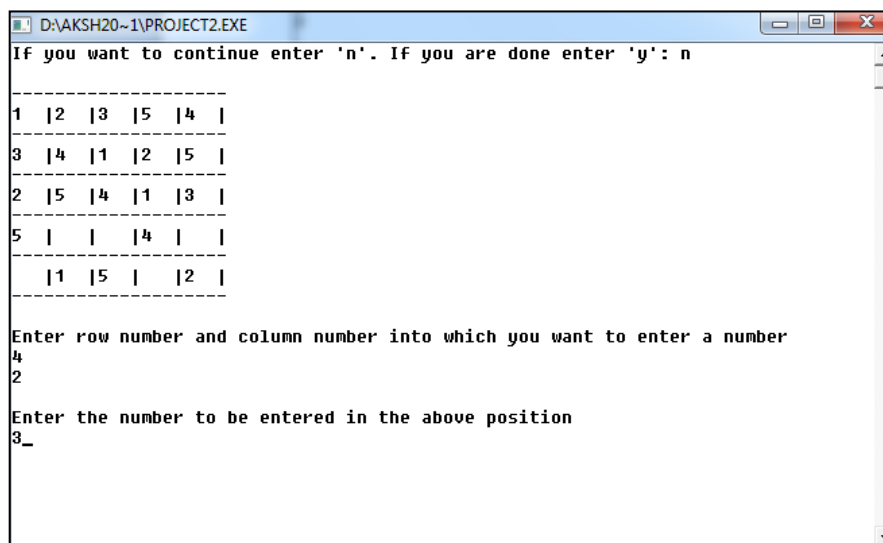
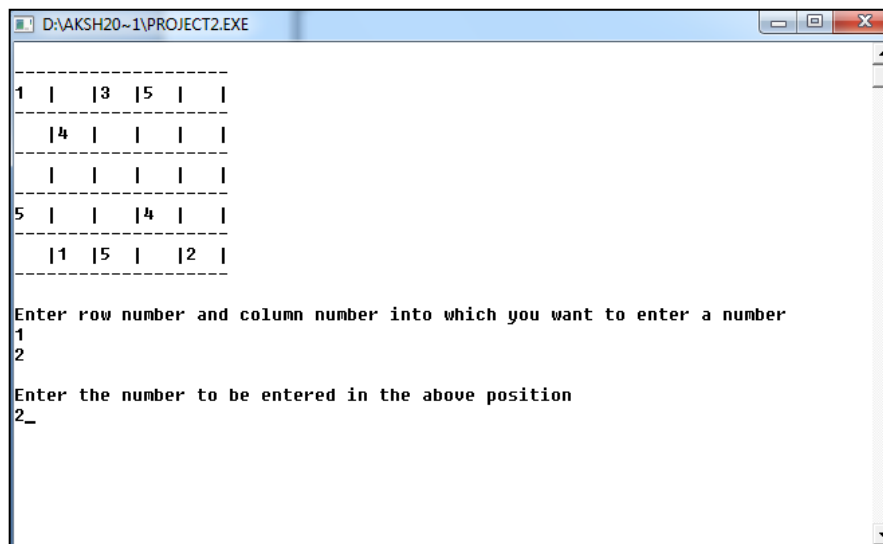
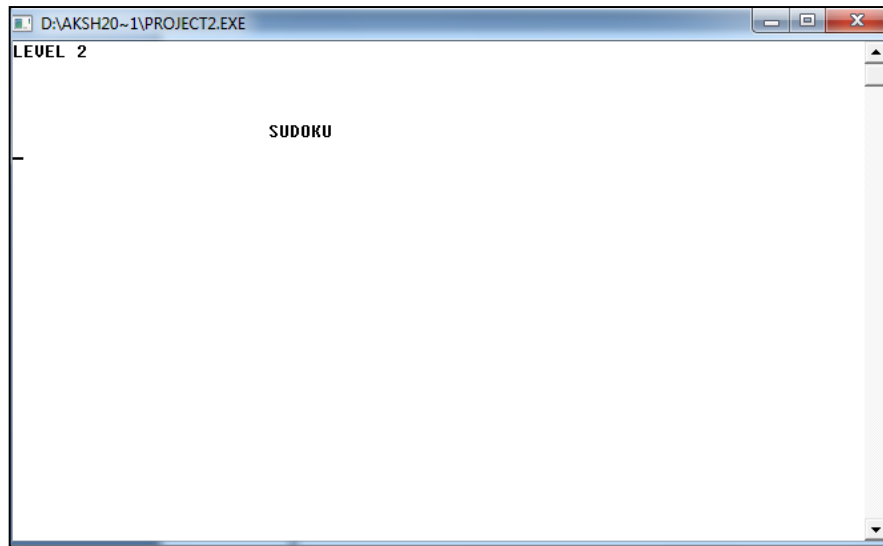
```

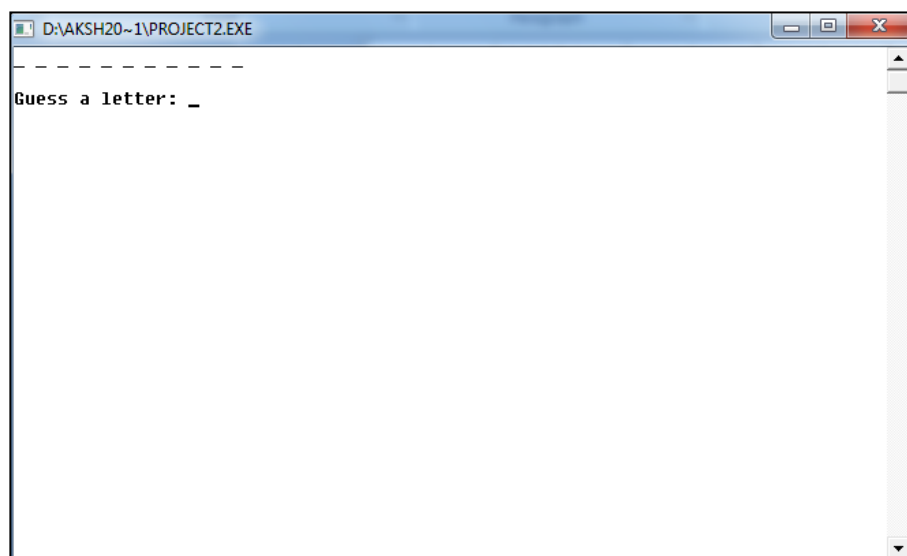
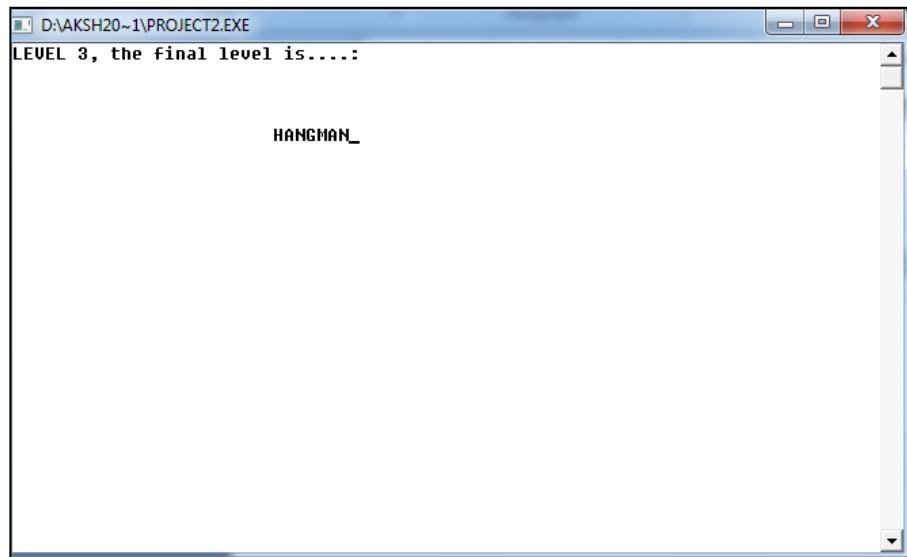
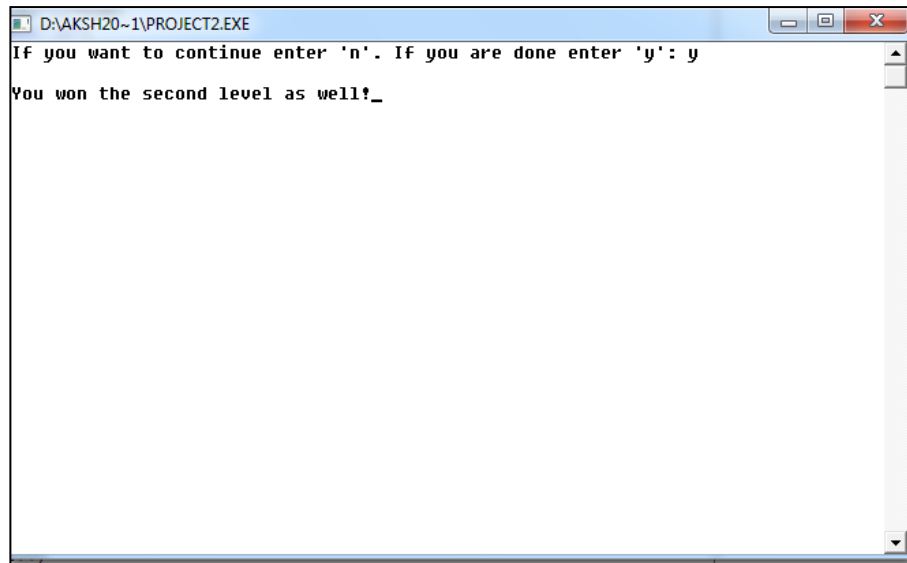
```
    result=spintthewheel(spin);
    if(result==0)
    {
        cout<<"\nNo moves\nGAME OVER\n";
        exit(0);
    }
    else
    {
        cout<<"Won moves from spin the wheel. You can play again!\n";
        clrscr();
        hangman();
        if(turn==10)
            cout<<"Finally you made it! You are the Winner!";
        getch();
    }
}

}
```

SCREENSHOTS







```
D:\AKSH20~1\PROJECT2.EXE

-----
Guess a letter: d
Correct guess!
----- d _

Guess a letter: e
miss: 6
----- d _

Guess a letter:
w
miss: 5
----- d _

Guess a letter:
u
miss: 4
----- d _

Guess a letter: k
miss: 3
----- d _

Guess a letter:
```

```
D:\AKSH20~1\PROJECT2.EXE

1 chance more

-----

Guess a letter: f
miss: 6
-----

Guess a letter: g
Correct guess!
g -----

Guess a letter:
j
miss: 5
g -----

Guess a letter: k
miss: 4
g -----

Guess a letter: l
Correct guess!
g ----- l
```

```
D:\AKSH20~1\PROJECT2.EXE

Guess a letter: k
miss: 4
g -----

Guess a letter: l
Correct guess!
g ----- l

Guess a letter: s
miss: 3
g ----- l

Guess a letter: q
miss: 2
g ----- l

Guess a letter: z
miss: 1
g ----- l

Guess a letter: x
miss: 0
Spinning the wheel of luck.....
Ready to spin the wheel?
```

```
(Inactive D:\AKSH20~1\PROJECT2.EXE)

Guess a letter: l
Correct guess!
g _ _ _ _ _ l

Guess a letter: s
miss: 3
g _ _ _ _ _ l

Guess a letter: q
miss: 2
g _ _ _ _ _ l

Guess a letter: z
miss: 1
g _ _ _ _ _ l

Guess a letter: x
miss: 0
Spinning the wheel of luck.....
Ready to spin the wheel?
1      2      2
No moves
GAME OVER
```

```
D:\AKSH20~1\PROJECT2.EXE

_ _ _ _ _
Guess a letter: c
Correct guess!
_ _ _ _ _ c _ _ _ _ _

Guess a letter: o
Correct guess!
Correct guess!
_ o _ _ _ c o _ _ _ _ _

Guess a letter: a
Correct guess!
_ o _ _ _ c o a _ _ _ _ _

Guess a letter: s
Correct guess!
_ o _ _ _ c o a s _ _ _ _ _

Guess a letter:
r
Correct guess!
Correct guess!
Correct guess!
r o _ _ _ r c o a s _ _ r
```

```
D:\AKSH20~1\PROJECT2.EXE

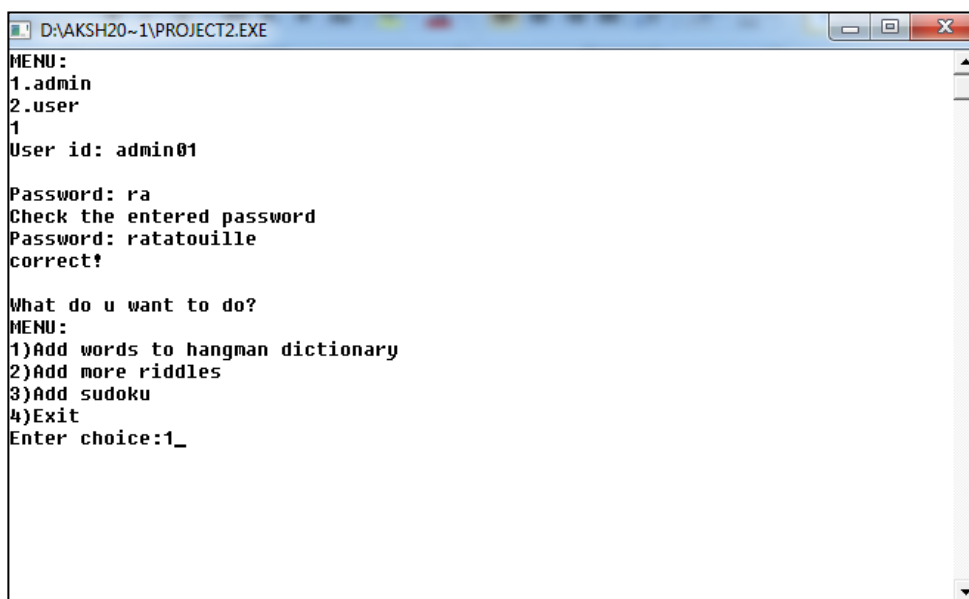
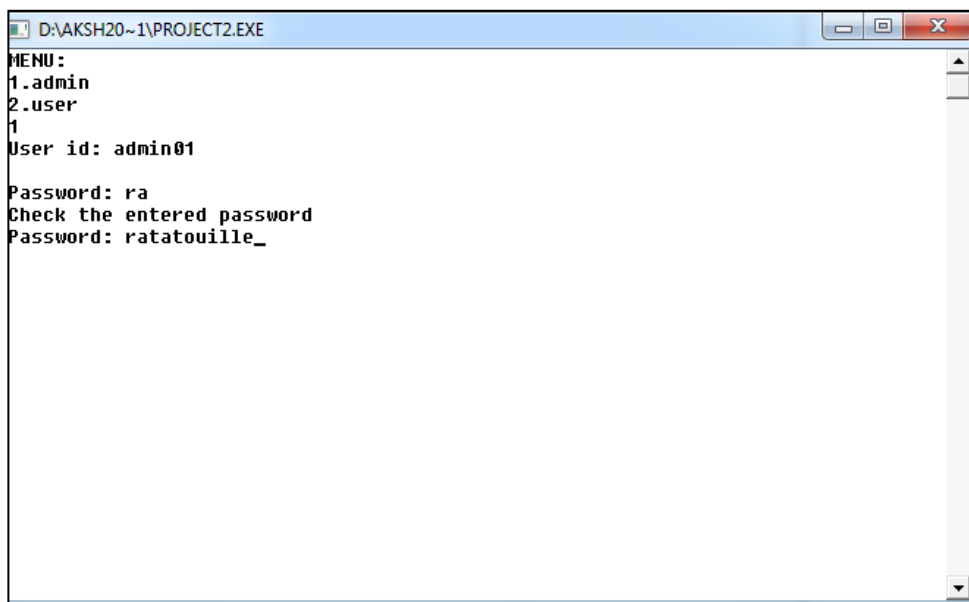
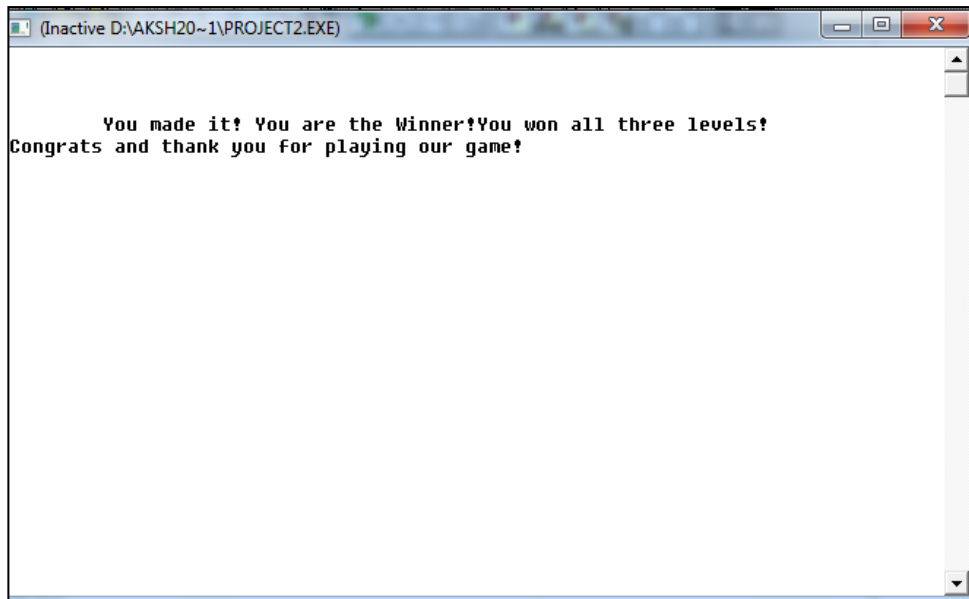
Guess a letter: s
Correct guess!
_ o _ _ _ c o a s _ _ _ _ _

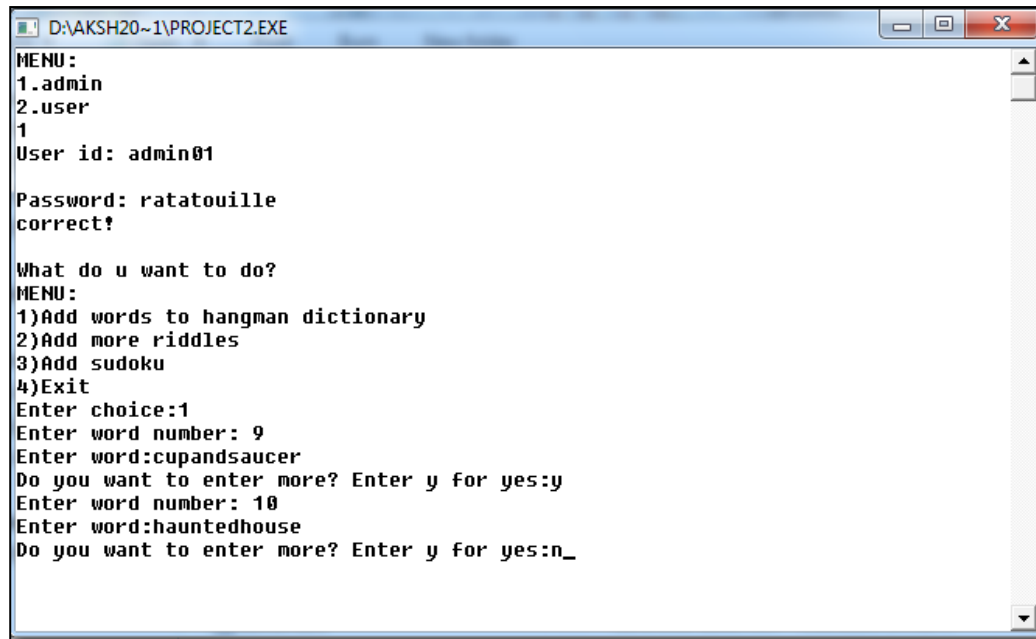
Guess a letter:
r
Correct guess!
Correct guess!
Correct guess!
r o _ _ _ r c o a s _ _ r

Guess a letter: l
Correct guess!
Correct guess!
r o l l _ r c o a s _ _ r

Guess a letter: e
Correct guess!
Correct guess!
r o l l e r c o a s _ e r

Guess a letter: t
Correct guess!
```





```
D:\AKSH20~1\PROJECT2.EXE
MENU:
1.admin
2.user
1
User id: admin01

Password: ratatouille
correct!

What do u want to do?
MENU:
1)Add words to hangman dictionary
2)Add more riddles
3)Add sudoku
4)Exit
Enter choice:1
Enter word number: 9
Enter word:cupandsaucer
Do you want to enter more? Enter y for yes:y
Enter word number: 10
Enter word:hauntedhouse
Do you want to enter more? Enter y for yes:n_
```

CONCLUSION

This project has provided us with an excellent opportunity to understand and analyse the concepts of C++ more clear. We were able to combine and implement our visions and ideas by finding the way to do so in the making of this program.

We have given out very best in carrying out this project. We are very appreciative and thankful to everyone who have believed in us and provided us the support, guidance and facilities that we needed to complete this project on time.

This project can be upgraded by the addition of a facility to view a leaderboard to record the player's name and records. Graphics can be added to make the game look more attractive. Password can shown as asterisk while entering to protect password from others.

Thank You!