#include<iostream>

#include<stdlib.h>

#include<stdio.h>

#include<conio.h>

#include<stdlib.h>

#include<dos.h>

#include<windows.h>

#include<time.h>

using namespace std;

struct node

{

int data;

node \*next;

node \*snake;

node \*ladder;

}\*p,\*p1,\*p2,\*head,\*tail;

void initialize()

{

head=NULL;

tail=NULL;

for(int i=1;i<=100;i++)

{

p=new node;

p->data=i;

if(head==NULL)

{

head=p;

tail=p;

tail->next=NULL;

p->snake=NULL;

p->ladder=NULL;

}

else

{

tail->next=p;

tail=p;

p->snake=NULL;

p->ladder=NULL;

}

}

}

void print\_initialize()

{

system("cls");

cout<<"\t\t\tThe Layout of the Game Matrix is:\n\n\n\t";

p=head;

while(p!=NULL)

{

if(p->data%10==0)

{cout<<"\n";}

cout<<p->data<<"\t";

p=p->next;

}

}

void form\_snake(int o,int t)

{

for(p1=head;p1->data!=o;p1=p1->next)

{}

for(p2=head;p2->data!=t;p2=p2->next)

{}

p1->snake=p2;

}

void form\_ladder(int o,int t)

{

for(p1=head;p1->data!=o;p1=p1->next)

{}

for(p2=head;p2->data!=t;p2=p2->next)

{}

p1->ladder=p2;

}

void check\_snake()

{

cout<<"The position of the snakes are:\n";

for(p1=head;p1!=NULL;p1=p1->next)

{

if(p1->snake!=NULL)

cout<<endl<<p1->data<<"->>>"<<p1->snake->data<<endl;

}

}

void check\_ladder()

{

cout<<"The position of the ladders are:\n";

for(p1=head;p1!=NULL;p1=p1->next)

{

if(p1->ladder!=NULL)

cout<<endl<<p1->data<<"->>>"<<p1->ladder->data<<endl;

}

}

void p1\_chance()

{

int num;

l1:num=rand();

if(num>6 || num<=0)

goto l1;

cout<<"The outcome of the dice for player 1 is ->>"<<num<<endl;

while(num>0 && p1!=NULL && p1->data!=100)

{

num--;

p1=p1->next;

}

if(p1->snake!=NULL)

p1=p1->snake;

if(p1->ladder!=NULL)

p1=p1->ladder;

}

void p2\_chance()

{

int num;

l1:num=rand();

if(num>6 || num==0)

goto l1;

cout<<"The outcome of the dice for player 2 is ->>"<<num<<endl;

while(num>0 && p2!=NULL && p2->data!=100)

{

num--;

p2=p2->next;

}

if(p2->snake!=NULL)

p2=p2->snake;

if(p2->ladder!=NULL)

p2=p2->ladder;

}

void homepage()

{

cout<<endl<<endl<<"\t\tWelcome";Sleep(500);cout<<" to";Sleep(500);cout<<" an";

Sleep(500);cout<<" Interactive";Sleep(500);cout<<" Snake";

Sleep(500);cout<<" Game";Sleep(500);cout<<" Using ";Sleep(500);

cout<<" Linked List";Sleep(1000);

cout<<endl;

cout<<"\t\t @\_@"<<endl;

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

{

for(int j=i;j<20;j++)

cout<<" ";

cout<<"^^^^"<<endl;

Sleep(100);

}

for(int i=15;i<20;i++)

{

for(int j=i;j>0;j--)

cout<<" ";

cout<<"^^^^"<<endl;

Sleep(100);

}

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

{

for(int j=i;j<20;j++)

cout<<" ";

cout<<"^^^^"<<endl;

Sleep(100);

}

for(int i=0;i<10;i++)

{

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

Sleep(100);

}

cout<<"Project By:-"<<endl<<endl;

Sleep(500);

cout<<"\tShubham Kumar"<<endl<<endl;

Sleep(500);

cout<<"\tNiket Jain"<<endl<<endl;

Sleep(500);

cout<<"\tAyush Sinha"<<endl<<endl;

Sleep(1000);

cout<<"------------------------------------------------------------------"<<endl<<endl;

cout<<"Project submitted to:-"<<endl<<endl;

Sleep(500);

cout<<"\tProf. Shalini L."<<endl<<endl;

Sleep(500);

}

void current\_status()

{

cout<<endl;

for(p=head;p!=NULL;p=p->next)

{cout<<"\t";

if(p->data/10==0)

{

cout<<p->data;

}

else

{

cout<<p->data;

}

if(p1->data==p->data)

cout<<"p1";

if(p->data%10==int())

cout<<endl;

if(p2->data==p->data)

cout<<"p2";

}

}

int main()

{

char player1[50],player2[50];

homepage();

getch();

system("cls");

cout<<"Enter the name of player 1:-";

gets(player1);

cout<<endl<<endl;

cout<<"Enter the name player 2:-";

gets(player2);

system("cls");

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

cout<<"\t\t\t Let the game begin";

getch();

initialize();

print\_initialize();

getch();

system("cls");

form\_ladder(6,33);

form\_ladder(16,24);

form\_ladder(21,44);

form\_ladder(35,66);

form\_ladder(51,74);

form\_ladder(78,96);

form\_snake(26,8);

form\_snake(37,19);

form\_snake(48,11);

form\_snake(63,25);

form\_snake(77,34);

form\_snake(89,54);

form\_snake(98,64);

check\_ladder();

check\_snake();

getch();

int i;

for(i=0,p1=head,p2=head;

p1->next!=NULL,p2->next!=NULL,p1->data!=100,p2->data!=100;

i++)

{

if(i%2==0)

{

system("cls");

p1\_chance();

current\_status();

getch();

}

else

{

system("cls");

p2\_chance();

current\_status();

getch();

}

if(p1->data==100 or p1->next==NULL)

{

cout<<player1<<" wins";

break;

}

else if(p2->data==100 or p2->next==NULL)

{

cout<<player2<<" wins";

break;

}

else

{

continue;

}

}

return 0;

}