Project 1  
<Black Jack>

CIS-5 47982

Name: Kim, TaeYoun

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Introduction

Title: Black Jack

BlackJack is one of the well-known playing card game in the world. This program gives user can experience blackjack with perfectly visualized UI(User Interface) and cards. When the game has begun, player will set up the display configuration that provides player get in the game easily. Next, player can choose some playing options that helps user do not play with rules that he or she does not like. Options will provide the period of shuffling card, starting money, etc. When the player confirms the options, the game will start automatically. Player has to bet the money between $5-50(it prevents player play too aggressive or passive.) first. After that, player is able to see the starting card(2 cards for him, 1 card for dealer), and player would pick either ‘Hit’ or ‘Stay.’ If player type 1 to choose ‘Hit,’ dealer will give another card up to 5. Player can hit until the total of card’s number is lower than 21. When the sum of player’s cards becomes higher than 21, player lose the game automatically - this rule is called ‘Burst.’ If player choose ‘Stay,’ dealer will pick his card repeatedly until the dealer has number more than 17. When he meat the condition, he will stop even if his number is lower than player, and dealer also has ‘Burst' that dealer lose the game if his cards reach higher number than 21. When the dealer ends his turn, the program will calculate the both numbers. If player has higher number than dealer, player wins. Otherwise, player loses. After the game, player can choose stop or keep playing game. Player can play in same game until either dealer or player loses all of money.

Summary

Project Size: More than 1000 lines

The number of variables: 28 variables exclude local variables, which are not located on main function

The number of functions: 32

While I was coding this program, I had to fight both time and bugs. I tried to make the function simple, so the functions interact each other. I wanted to give each function has its own character, and that helps me do not duplicate functions that has similar mechanism. Since I realize that I only have a few days, time made me hurry. My codes got dirty, and the functions had longer lines than before. Moreover, some bugs, especially broken display while I visualized the game made me cannot concentrate on my work. After I ended my program, I played my game several times to find out any bugs. I played more than an hour, and I felt this game is awesome. Full-visualized card game made more fun even though player has to configure his program window. It was good experience to me because I never coded this long with C++.

Program

/\*

\* File: main.cpp

\* Author: TaeYoun Kim

\*

\* Created on October 14, 2013, 11:08 AM

\* source -

\* <http://patorjk.com/software/taag> - ASCII code text generator

\* <http://cent84.tistory.com/122> - string to int

\* <http://www.retrojunkie.com/asciiart/sports/cards.htm> - card images

\*/

/\*

\* PATCH NOTE

\* 1.0.10.14 - visualized title and add setup function

\* 1.1.10.14 - added blank function, started building mod-select functions

\* 1.2.10.16 - Visualized Card Deck

\* 1.3.10.17 - Setting Part done

\* 1.4.10.18 - Shuffling Cards

\* 1.5.10.18 - Display Cards

\* 1.6.10.20 - Improved System

\* 1.7.10.21 - Fixed Card Image Bugs

\* 1.8.10.21 - Minor Bug-fixes

\* 2.0.10.22 - Prototype version complete

\* 2.1.10.22 - Fixed Critical Error > Incorrect Card Amount Calculation

\* 2.2.10.22 - Added Restarting Game

\* 2.3.10.22 - Fixed Critical Bugs - Overdrawing cards

\* 2.4.10.23 - Fixed Critical BUgs - Always Read A as 11

\* 2.5.10.23 - Improved deck cycling system

\* 2.6.10.23 - Added earn/lose money on the status bar

\* 2.7.10.23 - Temporary Disabled 'Load Game' Option

\* 2.8.10.23 - Added Exit Game instead of Load Game

\* 3.0.10.23 - Upgraded to Alpha Version

\* 3.1.10.23 - Added Five Card Charley Rules

\* 3.2.10.23 - Some Minor Bug-Fixes

\* 3.3.10.23 - Fixed Five Card Charley Bugs

\* 3.4.10.23 - Fixed Player cannot End the Game when Game is Over

\*/

#include <cstdlib>

#include <iostream>

#include <iomanip>

#include <string>

#include <sstream>

#include <math.h>

#include <ctime>

using namespace std;

//Global Constants

const string VERSION="3.4.10.23.Ap";

const int BWIDTH=65;

//function Prototypes

//int batting(int, int [], int, string, string, string);

bool DealerPhase(int[]);

bool PlayerPhase(string);

void gameresult(int,int &,int &,int,int);

bool nextgame(string, string);

bool gameover(string, string);

void cardcount(int,int [], bool &, bool &, string);

int batting(int, string);

int IsAce(int,int);

int cardcalculator(int, int, int, int, int);

bool readStr4Int(string, int &);

string displaymoney(int);

void spreadcard2(int [], int &, string, string, string, bool, bool,int [], int[],string &);

//void spreadcard(int [], int &, string, string, string, bool,int,int,string &);

void displaycards(int,int,int,int,int,int,int,int,int,int,string &);

int card2int(int);

void num2card(char &, int &, int);

int gamemode();

void gamesetting(int &, int &, bool &, bool &, bool &);

int gs\_money();

int gs\_cshuffle(int);

void gs\_vu(bool m, bool c, bool f, bool h, bool d, int vm, int vc, int vf, int vh, int vd);

int gs\_half(int money, int cshuffle, bool fcc);

int gs\_fcc(int money, int cshuffle);

int gs\_confirm(int, int, bool, bool);

string gsc\_money(int);

string gsc\_cshuffle(int);

string gsc\_bool(int);

void title();

void setup();

void blank(char shape,int width,int height,bool);

int Intselect(string str);

string IntToString(int n);

string Cards(char,int,int,bool);

int main(int argc, char\*\* argv) {

/\*

int n;char c;string stri;

for (int i=0; i<52; i++) {

num2card(c, n, i);

for (int k=1; k<10; k++) {

stri=Cards(c, n, k, true);

cout<<" :"<<stri.length()<<endl;

}

cout<<endl;

}

\*/

//Declare Random Number

srand(static\_cast<unsigned int>(time(0)));

//Declare Variables

bool endgame=false,restart=true;

//title

title();

//menu

setup();

do{

//Declare Variables

int mod, cshuffle, num,rate=1, gamecount=1, money, dmoney=1000, bat=0, ccount,pcount,dcount;

bool fcc,half,dlimit,pwin=false,dwin=false;

int card[80]={0};

string msg, dstat, pstat, display;

mod=gamemode();

if(mod==1){gamesetting(money, cshuffle, fcc, half, dlimit);}

if(mod==2){break;restart=false;}

int deck=cshuffle;

if (half==true){rate=2;}

//Game Start

do{

int phase[10]={10,10,10,10,10,10,10,10,10,10};

int cdnum[10];

dstat=" [GAME ";dstat+=displaymoney(gamecount);dstat+="] Dealer $";dstat+=displaymoney(dmoney);

pstat=" Player $";pstat+=displaymoney(money);pstat+=" // Bat $";pstat+=displaymoney(bat);

//Shuffle

msg="!! Bat Your Money !! ";

if(deck>=cshuffle){

deck=0;

for (int i=0; i<51; i++) {

card[i]=0;

for (bool b=false; b==false;) {

card[i]=rand()%52;

int k=0;

bool f=false;

do{

if(card[k]==card[i]&&k!=i){f=true;}

else{if(k==i&&card[i]!=0){b=true;f=true;}}

k++;

}while (k<=i&&f==false);

}

}

for (int j=52; j<80; j++) {

card[j]=card[j-52];

}

//for (int l=0; l<70; l++) {

// cout<<"card["<<l<<"] = "<<card[l]<<endl;

//}

num=0;

msg+="!! Card Shuffled !! ";

}

//Batting

//phase[0]=1;phase[1]=2;phase[2]=10;phase[3]=10;phase[4]=10;phase[5]=3;phase[6]=4;phase[7]=10;phase[8]=10;phase[9]=10;

spreadcard2(card, num, msg, dstat, pstat, true,true,phase,cdnum, display);

bat=batting(money, display);

money-=bat;

//Begin

dstat=" [GAME ";dstat+=displaymoney(gamecount);dstat+="] Dealer $";dstat+=displaymoney(dmoney);

pstat=" Player $";pstat+=displaymoney(money);pstat+=" // Bat $";pstat+=displaymoney(bat);

msg="!! Dealer sets cards !!";

//check BLACKJACK

phase[0]=0;phase[1]=1;phase[5]=2;phase[6]=3;ccount=4;pcount=7;dcount=2;

spreadcard2(card, num, msg, dstat, pstat, false,true,phase,cdnum, display);

cardcount(1,cdnum,pwin,dwin,display);

if(pwin==true){

if(dwin==true){

msg="!! Push - Both dealer and player are BLACK JACK !!";

gameresult(2,money,dmoney,bat,rate);

spreadcard2(card, num, msg, dstat, pstat, false,false,phase,cdnum, display);

}else{

msg="!! Player Win - BLACK JACK // You earned $";msg+=IntToString(bat\*rate);msg+=" !!";

gameresult(3,money,dmoney,bat,rate);

spreadcard2(card, num, msg, dstat, pstat, false,false,phase,cdnum, display);

}

}else if(dwin==true){

msg="!! Dealer Win - BLACK JACK // You lost $";msg+=IntToString(bat\*rate);msg+=" !!";

gameresult(4,money,dmoney,bat,rate);

spreadcard2(card, num, msg, dstat, pstat, false,false,phase,cdnum, display);

}else{

//Player Phase

for (bool pt=true; pt==true;) {

if(pt==true){pt=PlayerPhase(display);}

if(pt==true){

phase[pcount]=ccount;pcount++;ccount++;

spreadcard2(card, num, msg, dstat, pstat, false,true,phase,cdnum, display);

cardcount(2,cdnum,pwin,dwin,display);

}

if(dwin==true){

msg="!! Dealer Win - Player Burst // You lost $";msg+=IntToString(bat);msg+=" !!";

gameresult(1,money,dmoney,bat,rate);

spreadcard2(card, num, msg, dstat, pstat, false,true,phase,cdnum, display);

pt=false;

}else if(pcount>=10){

pwin=true;

msg="!! Player Win - Five Card Chaley // You earned $";msg+=IntToString(bat);msg+=" !!";

gameresult(0, money, dmoney, bat,rate);

spreadcard2(card, num, msg, dstat, pstat, false,true,phase,cdnum, display);

pt=false;

}

}

//Dealer Phase

if(pwin==false&&dwin==false){

for (bool dt=true; dt==true; ) {

spreadcard2(card, num, msg, dstat, pstat, false,false,phase,cdnum, display);

if(dt==true){dt=DealerPhase(cdnum);}

if(dt==true){

phase[dcount]=ccount;dcount++;ccount++;

spreadcard2(card, num, msg, dstat, pstat, false,false,phase,cdnum, display);

cardcount(3,cdnum,pwin,dwin,display);

}

if(pwin==true){

msg="!! Player Win - Dealer Burst // You earned $";msg+=IntToString(bat);msg+=" !!";

gameresult(0,money,dmoney,bat,rate);

spreadcard2(card, num, msg, dstat, pstat, false,false,phase,cdnum, display);

dt=false;

}else if(dcount>=5){

pwin=true;

msg="!! Player Win - Five Card Chaley // You earned $";msg+=IntToString(bat);msg+=" !!";

gameresult(0, money, dmoney, bat,rate);

spreadcard2(card, num, msg, dstat, pstat, false,false,phase,cdnum, display);

dt=false;

}

}

}

//Result

if(pwin==false&&dwin==false){

cardcount(4,cdnum,pwin,dwin,display);

if(pwin==true){

if(dwin==true){

msg="!! Push - Both dealer and player have same number !!";

gameresult(2,money,dmoney,bat,rate);

spreadcard2(card, num, msg, dstat, pstat, false,false,phase,cdnum, display);

}else{

msg="!! Player Win - Higher Number // You earned $";msg+=IntToString(bat);msg+=" !!";

gameresult(0,money,dmoney,bat,rate);

spreadcard2(card, num, msg, dstat, pstat, false,false,phase,cdnum, display);

}

}else if(dwin==true){

msg="!! Dealer Win - Higher Number // You lost $";msg+=IntToString(bat);msg+=" !!";

gameresult(1,money,dmoney,bat,rate);

spreadcard2(card, num, msg, dstat, pstat, false,false,phase,cdnum, display);

}

}

}

bat=0;

pwin=false;dwin=false;

dstat=" [GAME ";dstat+=displaymoney(gamecount);dstat+="] Dealer $";dstat+=displaymoney(dmoney);

pstat=" Player $";pstat+=displaymoney(money);pstat+=" // Bat $";pstat+=displaymoney(bat);

if(money<=0){

msg="You have no money - GAME OVER -";

spreadcard2(card, num, msg, dstat, pstat, false,false,phase,cdnum, display);

restart=gameover(msg,display);

endgame=restart;

}else if(dmoney<=0){

msg="Dealer lost all money - YOU WIN -";

spreadcard2(card, num, msg, dstat, pstat, false,false,phase,cdnum, display);

restart=gameover(msg,display);

endgame=restart;

}else{

//msg+="(1.Continue 2.Stop)";

spreadcard2(card, num, msg, dstat, pstat, false,false,phase,cdnum, display);

endgame=nextgame(msg,display);

}

num+=ccount;

if(num>=55){num-=52;}

deck++;

gamecount++;

}while(endgame==false&&restart==true);

}while (restart==true);

return 0;

}

bool DealerPhase(int num[]){

int i = cardcalculator(num[0], num[1], num[2], num[3], num[4]);

if(i<17&&i!=0){

return true;

}else{

return false;

}

}

bool nextgame(string msg, string op){

string choice;

cout<<"--Next game?(1.Continue 0.Stop): ";

for(bool b=false;b==false;){

cin>>choice;

if(choice=="0"){return true;}

if(choice=="1"){return false;}

cout<<op;

msg="!!WARNING!! Please type correct key-";

cout<<msg<<endl;

cout<<"--Next game?(1.Continue 0.Stop): ";

}

return false;

}

bool gameover(string msg, string op){

string choice;

cout<<"--PLAY AGAIN?(Y/N): ";

for(bool b=false;b==false;){

cin>>choice;

if(choice=="Y"||choice=="y"){return true;}

if(choice=="N"||choice=="n"){return false;}

cout<<op;

msg="!!WARNING!! Please type correct key-";

cout<<msg<<endl;

cout<<"--PLAY AGAIN?(Y/N): ";

}

return false;

}

bool PlayerPhase(string op){

string choice;

string msg;

cout<<op;

msg="\*\* Select Your Action- (1. Hit) (2.Stay)";

cout<<msg<<endl;

cout<<"--Action: ";

for(bool b=false;b==false;){

cin>>choice;

if(choice=="1"){return true;}

if(choice=="2"){return false;}

cout<<op;

msg="!!WARNING!! Please type correct key- (1. Hit) (2.Stay)";

cout<<msg<<endl;

//spreadcard(card, num, msg, dealer, player, true);

cout<<"--Action: ";

}

return false;

}

//winner: 0-player, 1-dealer, 2-push, 3-BJplayer, 4-BJdealer

void gameresult(int winner, int &pm, int &dm, int bat, int rate){

if(winner==0){

pm+=bat\*2;

dm-=bat;

}else if(winner==1){

dm+=bat;

}else if(winner==2){

pm+=bat;

}else if(winner==3){

pm+=bat\*(rate+1);

dm-=bat\*rate;

}else if(winner==4){

pm+=bat;

pm-=bat\*rate;

dm+=bat\*rate;

}

}

//BlackJack =1,Player Burst=2, Dealer Burst=3, High Number=4

void cardcount(int n, int num[], bool &player\_bj, bool &dealer\_bj, string op){

if(n==1){

if(cardcalculator(num[0], num[1], num[2], num[3], num[4])==21){dealer\_bj=true;}

if(cardcalculator(num[5], num[6], num[7], num[8], num[9])==21){player\_bj=true;}

}else if(n==2){

if(cardcalculator(num[5], num[6], num[7], num[8], num[9])==0){dealer\_bj=true;}

}else if(n==3){

if(cardcalculator(num[0], num[1], num[2], num[3], num[4])==0){player\_bj=true;}

}else if(n==4){

int d=cardcalculator(num[0], num[1], num[2], num[3], num[4]);

int p=cardcalculator(num[5], num[6], num[7], num[8], num[9]);

if(d==p){player\_bj=true;dealer\_bj=true;}

else if(d>p){dealer\_bj=true;}

else{player\_bj=true;}

cout<<d<<" "<<p<<endl;

}

}

int cardcalculator(int first, int second, int third, int fourth, int fifth){

int amount;

amount=IsAce(first,0)+IsAce(second,0)+IsAce(third,0)+IsAce(fourth,0)+IsAce(fifth,0);

if(amount>21){

if(IsAce(first, 1)==1){amount-=10;}

if(IsAce(second, 1)==1&&amount>21){amount-=10;}

if(IsAce(third, 1)==1&&amount>21){amount-=10;}

if(IsAce(fourth, 1)==1&&amount>21){amount-=10;}

if(IsAce(fifth, 1)==1&&amount>21){amount-=10;}

if(amount>21) {

amount=0;

}

}

cout<<amount<<endl;

return amount;

}

int IsAce(int cn, int cv){

int n;

n=card2int(cn);

//if cv=1, change it as 1, otherwise, change it as 11

if(n==1){

if(cv==1){

cn=1;

}else{

cn=11;

}

}else{

if(n>10){n=10;}

cn=n;

}

return cn;

}

//int batting(int m, int card[],int num, string msg, string dealer, string player){

int batting(int m, string op){

string money;

string msg;

int n=0;

//spreadcard(card, num, msg, dealer, player, true,op);

cout<<"--Your Batting?(5~50): $";

for(bool b=false;b==false;){

cin>>money;

if(readStr4Int(money, n)==true){

return n;

}

cout<<op;

msg="!!WARNING!! You've entered incorrect amount";

cout<<msg<<endl;

//spreadcard(card, num, msg, dealer, player, true);

cout<<"--Your Batting?(5~50): $";

}

return 0;

}

bool readStr4Int(string str, int &m){

string s=str.substr(0,1);

bool b=false;

if(s=="1"||s=="2"||s=="3"||s=="4"){

string s2=str.substr(1,1);

if(s2=="1"||s2=="2"||s2=="3"||s2=="4"||s2=="5"||s2=="6"||s2=="7"||s2=="8"||s2=="9"||s2=="0"){

if(str.length()==2){b=true;m=(Intselect(str.substr(0,1))\*10)+Intselect(str.substr(1,1));}

}

}else if(s=="5"||s=="6"||s=="7"||s=="8"||s=="9"){

if(str.length()==1){b=true;m=Intselect(str);}

else{

if(s=="5"){

string s3=str.substr(1,1);

if(s3=="0"){

if(str.length()==2){b=true;m=(Intselect(str.substr(0,1))\*10)+Intselect(str.substr(1,1));}

}

}

}

}

return b;

}

string displaymoney(int money){

string str;

if(money<10){str=" ";str+=IntToString(money);}

else if(money<100){str=" ";str+=IntToString(money);}

else if(money<1000){str=" ";str+=IntToString(money);}

else{str=IntToString(money);}

return str;

}

void spreadcard2(int card[],int &num, string msg, string dealer, string player, bool hide, bool dhide, int p[],int phase[], string &op){

int i[10];

op="#################################################################\n";

op+="##";op+=dealer;op+=" // ##\n";

//blank('#',BWIDTH,1,true);

//cout<<"##"<<dealer<<" // ##"<<endl;

cout<<op;

for (int k=0; k<10; k++) {

i[k]=card[k+num];

phase[k]=p[k];

}

for (int k=0; k<10; k++) {

if(phase[k]==10){phase[k]=52;}

else{phase[k]=i[phase[k]];}

}

if (hide==true) {

displaycards(52, 52, 52, 52, 52, 52, 52,52,52,52,op);

}else{

if (dhide==true) {

displaycards(phase[0],53,phase[2],phase[3],phase[4],phase[5],phase[6],phase[7],phase[8],phase[9],op);

}else{

displaycards(phase[0],phase[1],phase[2],phase[3],phase[4],phase[5],phase[6],phase[7],phase[8],phase[9],op);

}

}

cout<<"##"<<player<<" ##"<<endl;

blank('#',BWIDTH,1,true);

op+="##";op+=player;op+=" ##\n";

op+="#################################################################\n";

cout<<msg<<endl;

}

void spreadcard(int card[],int &num, string msg, string dealer, string player, bool hide, int playerturn, int dealerturn, string &op){

int i[10];

op="#################################################################\n";

op+="##";op+=dealer;op+=" // ##\n";

//blank('#',BWIDTH,1,true);

//cout<<"##"<<dealer<<" // ##"<<endl;

cout<<op;

for (int k=0; k<10; k++) {

i[k]=card[k+num];

}

if (hide==true) {

displaycards(52, 52, 52, 52, 52, 52, 52,52,52,52,op);

}else{

if(playerturn==2){

displaycards(i[0], i[1],52,52,52, i[2], i[3],52,52,52,op);

}

}

cout<<"##"<<player<<" ##"<<endl;

blank('#',BWIDTH,1,true);

op+="##";op+=player;op+=" ##\n";

op+="#################################################################\n";

cout<<msg<<endl;

}

void displaycards(int dfp, int dsp, int dtp, int dnp, int dlp, int fp, int sp, int tp, int np, int lp,string &op){

string output;

char cd[10];

int nb[10];

num2card(cd[0], nb[0], dfp);

num2card(cd[1], nb[1], dsp);

num2card(cd[2], nb[2], fp);

num2card(cd[3], nb[3], sp);

num2card(cd[4], nb[4], tp);

num2card(cd[5], nb[5], np);

num2card(cd[6], nb[6], lp);

num2card(cd[7], nb[7], dtp);

num2card(cd[8], nb[8], dnp);

num2card(cd[9], nb[9], dlp);

for (int k=1; k<10; k++) {

int j=0;

for (bool b=false; b==false||j<10;) {

output="##";

output+=Cards(cd[0], nb[0], k,false);

output+=Cards(cd[1], nb[1], k,false);

output+=Cards(cd[7], nb[7], k,false);

output+=Cards(cd[8], nb[8], k,false);

output+=Cards(cd[9], nb[9], k,false);

output+=" ##";

if (output.length()==65) {

b=true;

}

j++;

}

op+=output;

op+="\n";

cout<<output<<endl;

}

output="##\\/\\/\\/\\/\\/\\/\\/\\/\\/\\/\\/\\/\\/\\/";

output+="\\/\\/\\/\\/\\/\\/\\/\\/\\/\\/\\/\\/\\/\\/\\/\\/\\##\n";

op+=output;

cout<<output;

for (int i=1; i<10; i++) {

int j=0;

for (bool b=false; b==false||j<10;) {

output="##";

output+=Cards(cd[2], nb[2], i,false);

output+=Cards(cd[3], nb[3], i,false);

output+=Cards(cd[4], nb[4], i,false);

output+=Cards(cd[5], nb[5], i,false);

output+=Cards(cd[6], nb[6], i,false);

output+=" ##";

if (output.length()==65) {

b=true;

}

j++;

}

op+=output;

op+="\n";

cout<<output<<endl;

}

}

int card2int(int i){

//0~12 - spades, 13~25 - clubs, 26~38 - diamonds, 39~51 - hearts

int n;

if (i<13){n=i+1;}

else if(i<26){n=i-12;}

else if(i<39){n=i-25;}

else if(i<52){n=i-38;}

else {n=0;}

return n;

}

void num2card(char &c, int &n, int i){

//0~12 - spades, 13~25 - clubs, 26~38 - diamonds, 39~51 - hearts

if (i<13) {

c='s';

n=i+1;

}else if(i<26){

c='c';

n=i-12;

}else if(i<39){

c='d';

n=i-25;

}else if(i<52){

c='h';

n=i-38;

}else if(i==52){c='c';n=14;}

else if(i==53){c='c';n=0;}

}

void gamesetting(int &m, int &c, bool &fcc, bool &half, bool &dlimit){

for(bool b=false;b==false;){

m=gs\_money();

c=gs\_cshuffle(m);

/\*

if(gs\_fcc(m,c)==1){

fcc=true;

}else{

fcc=false;

}

\*/

fcc=true;

if(gs\_half(m,c,fcc)==1){

half=true;

}else{

half=false;

}

if(gs\_confirm(m, c, fcc, half)==1){

dlimit=true;

if(m==1){m=50;}

else if(m==2){m=150;}

else if(m==3){m=300;}

else if(m==4){m=1000;}

if(c==1){c=30;}

else if(c==2){c=20;}

else if(c==3){c=10;}

else if(c==4){c=5;}

b=true;

}

}

}

void gs\_vu(bool m, bool c, bool f, bool h, bool d, int vm, int vc, int vf, int vh, int vd){

cout<<"#################################################################"<<endl;

cout<<"## \_ \_ \_ \_\_\_\_\_ \_\_ \_\_\_ \_ \_\_ \_\_ \_\_\_ ##"<<endl;

cout<<"## / | | \\| | \_\_\\ \\ / / / \_\_| /\_\\ | \\/ | \_\_| ##"<<endl;

cout<<"## | |\_ | .` | \_| \\ \\/\\/ / | (\_ |/ \_ \\| |\\/| | \_| ##"<<endl;

cout<<"## |\_(\_) |\_|\\\_|\_\_\_| \\\_/\\\_/ \\\_\_\_/\_/ \\\_\\\_|\_\_|\_|\_\_\_| ##"<<endl;

cout<<"## ##"<<endl;

cout<<"## ##"<<endl;

if(m==false){

cout<<"## Starting money: ##"<<endl;

}else{

cout<<"## Starting money: $"<<gsc\_money(vm)<<" ##"<<endl;

}

if(c==false){

cout<<"## Card shuffle: ##"<<endl;

}else{

cout<<"## Card shuffle: shuffling per "<<gsc\_cshuffle(vc)<<" games ##"<<endl;

}

if(f==false){

cout<<"## Five Card Chaley: On ##"<<endl;

}else{

cout<<"## Five Card Chaley: On ##"<<endl;

//cout<<"## Five Card Chaley: "<<gsc\_bool(vf)<<" ##"<<endl;

}

if(h==false){

cout<<"## 2x for BlackJack: ##"<<endl;

}else{

cout<<"## 2x for BlackJack: "<<gsc\_bool(vh)<<" ##"<<endl;

}

if(d==false){

cout<<"## Dealer Limit: 16 ##"<<endl;

}else{

cout<<"## Dealer Limit: 16 ##"<<endl;

}

cout<<"## ##"<<endl;

}

int gs\_money(){

string money;

gs\_vu(false, false, false, false, false, 0, 0, 0, 0, 0);

cout<<"## Select your Starting Money ##"<<endl;

cout<<"## 1. $50 ##"<<endl;

cout<<"## 2. $150 ##"<<endl;

cout<<"## 3. $300 ##"<<endl;

cout<<"## 4. $1000 ##"<<endl;

cout<<"## ##"<<endl;

cout<<"#################################################################"<<endl;

blank(' ',BWIDTH,4,true);

cout<<"--Select Your Starting Money: ";

for(bool b=false;b==false;){

cin>>money;

if(money=="1"||money=="2"||money=="3"||money=="4"){

return Intselect(money);

}

gs\_vu(false, false, false, false, false, 0, 0, 0, 0, 0);

cout<<"## Select your Starting Money ##"<<endl;

cout<<"## 1. $50 ##"<<endl;

cout<<"## 2. $150 ##"<<endl;

cout<<"## 3. $300 ##"<<endl;

cout<<"## 4. $1000 ##"<<endl;

cout<<"## ##"<<endl;

cout<<"#################################################################"<<endl;

blank(' ',BWIDTH,3,true);

cout<<"!!WARNING!! You've selected wrong selection"<<endl;

cout<<"--Select Your Starting Money: ";

}

return 0;

}

string gsc\_money(int money){

if(money==1)return "50 ";

if(money==2)return "150 ";

if(money==3)return "300 ";

return "1000";

}

int gs\_cshuffle(int money){

string cshuffle;

gs\_vu(true, false, false, false, false, money, 0, 0, 0, 0);

cout<<"## Select Shuffle Option ##"<<endl;

cout<<"## 1. shuffle cards per 30 games ##"<<endl;

cout<<"## 2. shuffle cards per 20 games ##"<<endl;

cout<<"## 3. shuffle cards per 10 games ##"<<endl;

cout<<"## 4. shuffle cards per 5 games ##"<<endl;

cout<<"## ##"<<endl;

cout<<"#################################################################"<<endl;

blank(' ',BWIDTH,4,true);

cout<<"--Select Shuffling Option: ";

for(bool b=false;b==false;){

cin>>cshuffle;

if(cshuffle=="1"||cshuffle=="2"||cshuffle=="3"||cshuffle=="4"){

return Intselect(cshuffle);

}

gs\_vu(true, false, false, false, false, money, 0, 0, 0, 0);

cout<<"## Select Shuffle Option ##"<<endl;

cout<<"## 1. shuffle cards per 30 games ##"<<endl;

cout<<"## 2. shuffle cards per 20 games ##"<<endl;

cout<<"## 3. shuffle cards per 10 games ##"<<endl;

cout<<"## 4. shuffle cards per 5 games ##"<<endl;

cout<<"## ##"<<endl;

cout<<"#################################################################"<<endl;

blank(' ',BWIDTH,3,true);

cout<<"!!WARNING!! You've selected wrong selection"<<endl;

cout<<"--Select Shuffling Option: ";

}

return 0;

}

string gsc\_cshuffle(int csuffle){

if(csuffle==1)return "30";

if(csuffle==2)return "20";

if(csuffle==3)return "10";

return " 5";

}

int gs\_fcc(int money, int cshuffle){

string fcc;

gs\_vu(true, true, false, false, false, money, cshuffle, 0, 0, 0);

cout<<"## Do you want to play with Five Card Charley rule? ##"<<endl;

cout<<"## 1. Yes(On) ##"<<endl;

cout<<"## 2. No (Off) ##"<<endl;

cout<<"## ##"<<endl;

cout<<"## ##"<<endl;

cout<<"## ##"<<endl;

cout<<"#################################################################"<<endl;

blank(' ',BWIDTH,4,true);

cout<<"--Select Your Option: ";

for(bool b=false;b==false;){

cin>>fcc;

if(fcc=="1"||fcc=="2"){

return Intselect(fcc);

}

gs\_vu(true, true, false, false, false, money, cshuffle, 0, 0, 0);

cout<<"## Do you want to play with Five Card Charley rule? ##"<<endl;

cout<<"## 1. Yes(On) ##"<<endl;

cout<<"## 2. No (Off) ##"<<endl;

cout<<"## ##"<<endl;

cout<<"## ##"<<endl;

cout<<"## ##"<<endl;

cout<<"#################################################################"<<endl;

blank(' ',BWIDTH,3,true);

cout<<"!!WARNING!! You've selected wrong selection"<<endl;

cout<<"--Select Your Option: ";

}

return 0;

}

string gsc\_bool(int csuffle){

if(csuffle==1)return "On ";

return "Off";

}

int gs\_half(int money, int cshuffle, bool fcc){

string half;

gs\_vu(true, true, true, false, false, money, cshuffle, fcc, 0, 0);

cout<<"## Do you want 2x rate when winner has BlackJack? ##"<<endl;

cout<<"## 1. Yes(On) ##"<<endl;

cout<<"## 2. No (Off) ##"<<endl;

cout<<"## ##"<<endl;

cout<<"## ##"<<endl;

cout<<"## ##"<<endl;

cout<<"#################################################################"<<endl;

blank(' ',BWIDTH,4,true);

cout<<"--Select Your Option: ";

for(bool b=false;b==false;){

cin>>half;

if(half=="1"||half=="2"){

return Intselect(half);

}

gs\_vu(true, true, true, false, false, money, cshuffle, fcc, 0, 0);

cout<<"## Do you want 2x rate when winner has BlackJack? ##"<<endl;

cout<<"## 1. Yes(On) ##"<<endl;

cout<<"## 2. No (Off) ##"<<endl;

cout<<"## ##"<<endl;

cout<<"## ##"<<endl;

cout<<"## ##"<<endl;

cout<<"#################################################################"<<endl;

blank(' ',BWIDTH,3,true);

cout<<"!!WARNING!! You've selected wrong selection"<<endl;

cout<<"--Select Your Option: ";

}

return 0;

}

int gs\_confirm(int money, int cshuffle, bool fcc, bool half){

string con;

gs\_vu(true, true, true, true, false, money, cshuffle, fcc, half, 0);

cout<<"## Is it correct? ##"<<endl;

cout<<"## 1. Yes ##"<<endl;

cout<<"## 2. No ##"<<endl;

cout<<"## ##"<<endl;

cout<<"## ##"<<endl;

cout<<"## ##"<<endl;

cout<<"#################################################################"<<endl;

blank(' ',BWIDTH,4,true);

cout<<"--Is it correct?: ";

for(bool b=false;b==false;){

cin>>con;

if(con=="1"||con=="2"){

return Intselect(con);

}

gs\_vu(true, true, true, true, false, money, cshuffle, fcc, half, 0);

cout<<"## Is it correct? ##"<<endl;

cout<<"## 1. Yes ##"<<endl;

cout<<"## 2. No ##"<<endl;

cout<<"## ##"<<endl;

cout<<"## ##"<<endl;

cout<<"## ##"<<endl;

cout<<"#################################################################"<<endl;

blank(' ',BWIDTH,3,true);

cout<<"!!WARNING!! You've selected wrong selection"<<endl;

cout<<"--Is it correct?: ";

}

return 0;

}

int gamemode()

{

string mod;

cout<<"#################################################################"<<endl;

cout<<"## \_ \_ \_ \_\_\_\_\_ \_\_ \_\_\_ \_ \_\_ \_\_ \_\_\_ ##"<<endl;

cout<<"## / | | \\| | \_\_\\ \\ / / / \_\_| /\_\\ | \\/ | \_\_| ##"<<endl;

cout<<"## | |\_ | .` | \_| \\ \\/\\/ / | (\_ |/ \_ \\| |\\/| | \_| ##"<<endl;

cout<<"## |\_(\_) |\_|\\\_|\_\_\_| \\\_/\\\_/ \\\_\_\_/\_/ \\\_\\\_|\_\_|\_|\_\_\_| ##"<<endl;

cout<<"## \_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_ \_ \_\_ \_\_ \_\_\_ ##"<<endl;

cout<<"## |\_ ) | \_\_\\ \\/ /\_ \_|\_ \_| / \_\_| /\_\\ | \\/ | \_\_| ##"<<endl;

cout<<"## / / \_| \_| > < | | | | | (\_ |/ \_ \\| |\\/| | \_| ##"<<endl;

cout<<"## /\_\_\_(\_)\_\_\_/\_/\\\_\\\_\_\_| |\_| \\\_\_\_/\_/ \\\_\\\_| |\_|\_\_\_| ##"<<endl;

cout<<"## ##"<<endl;

cout<<"#################################################################"<<endl;

blank(' ',BWIDTH,13,true);

cout<<"--Which one you want to play?: ";

for(bool b=false;b==false;){

cin>>mod;

if(mod=="1"||mod=="2"){

return Intselect(mod);

}

cout<<"#################################################################"<<endl;

cout<<"## \_ \_ \_ \_\_\_\_\_ \_\_ \_\_\_ \_ \_\_ \_\_ \_\_\_ ##"<<endl;

cout<<"## / | | \\| | \_\_\\ \\ / / / \_\_| /\_\\ | \\/ | \_\_| ##"<<endl;

cout<<"## | |\_ | .` | \_| \\ \\/\\/ / | (\_ |/ \_ \\| |\\/| | \_| ##"<<endl;

cout<<"## |\_(\_) |\_|\\\_|\_\_\_| \\\_/\\\_/ \\\_\_\_/\_/ \\\_\\\_|\_\_|\_|\_\_\_| ##"<<endl;

cout<<"## \_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_ \_ \_\_ \_\_ \_\_\_ ##"<<endl;

cout<<"## |\_ ) | \_\_\\ \\/ /\_ \_|\_ \_| / \_\_| /\_\\ | \\/ | \_\_| ##"<<endl;

cout<<"## / / \_| \_| > < | | | | | (\_ |/ \_ \\| |\\/| | \_| ##"<<endl;

cout<<"## /\_\_\_(\_)\_\_\_/\_/\\\_\\\_\_\_| |\_| \\\_\_\_/\_/ \\\_\\\_| |\_|\_\_\_| ##"<<endl;

cout<<"## ##"<<endl;

cout<<"#################################################################"<<endl;

blank(' ',BWIDTH,12,true);

cout<<"!!WARNING!! You've selected wrong selection"<<endl;

cout<<"--Which one you want to play?: ";

}

return 0;

}

/\*

int gamemode()

{

string mod;

cout<<"#################################################################"<<endl;

cout<<"## \_ \_ \_ \_\_\_\_\_ \_\_ \_\_\_ \_ \_\_ \_\_ \_\_\_ ##"<<endl;

cout<<"## / | | \\| | \_\_\\ \\ / / / \_\_| /\_\\ | \\/ | \_\_| ##"<<endl;

cout<<"## | |\_ | .` | \_| \\ \\/\\/ / | (\_ |/ \_ \\| |\\/| | \_| ##"<<endl;

cout<<"## |\_(\_) |\_|\\\_|\_\_\_| \\\_/\\\_/ \\\_\_\_/\_/ \\\_\\\_|\_\_|\_|\_\_\_| ##"<<endl;

cout<<"## \_\_\_ \_ \_\_\_ \_ \_\_\_ \_\_\_ \_ \_\_ \_\_ \_\_\_ ##"<<endl;

cout<<"## |\_ ) | | / \_ \\ /\_\\ | \\ / \_\_| /\_\\ | \\/ | \_\_| ##"<<endl;

cout<<"## / / \_| |\_| (\_) / \_ \\| |) | | (\_ |/ \_ \\| |\\/| | \_| ##"<<endl;

cout<<"## /\_\_\_(\_)\_\_\_\_\\\_\_\_/\_/ \\\_\\\_\_\_/ \\\_\_\_/\_/ \\\_\\\_| |\_|\_\_\_| ##"<<endl;

cout<<"## ##"<<endl;

cout<<"#################################################################"<<endl;

blank(' ',BWIDTH,13,true);

cout<<"--Which one you want to play?: ";

for(bool b=false;b==false;){

cin>>mod;

if(mod=="1"||mod=="2"){

return Intselect(mod);

}

cout<<"#################################################################"<<endl;

cout<<"## \_ \_ \_ \_\_\_\_\_ \_\_ \_\_\_ \_ \_\_ \_\_ \_\_\_ ##"<<endl;

cout<<"## / | | \\| | \_\_\\ \\ / / / \_\_| /\_\\ | \\/ | \_\_| ##"<<endl;

cout<<"## | |\_ | .` | \_| \\ \\/\\/ / | (\_ |/ \_ \\| |\\/| | \_| ##"<<endl;

cout<<"## |\_(\_) |\_|\\\_|\_\_\_| \\\_/\\\_/ \\\_\_\_/\_/ \\\_\\\_|\_\_|\_|\_\_\_| ##"<<endl;

cout<<"## \_\_\_ \_ \_\_\_ \_ \_\_\_ \_\_\_ \_ \_\_ \_\_ \_\_\_ ##"<<endl;

cout<<"## |\_ ) | | / \_ \\ /\_\\ | \\ / \_\_| /\_\\ | \\/ | \_\_| ##"<<endl;

cout<<"## / / \_| |\_| (\_) / \_ \\| |) | | (\_ |/ \_ \\| |\\/| | \_| ##"<<endl;

cout<<"## /\_\_\_(\_)\_\_\_\_\\\_\_\_/\_/ \\\_\\\_\_\_/ \\\_\_\_/\_/ \\\_\\\_| |\_|\_\_\_| ##"<<endl;

cout<<"## ##"<<endl;

cout<<"#################################################################"<<endl;

blank(' ',BWIDTH,12,true);

cout<<"!!WARNING!! You've selected wrong selection"<<endl;

cout<<"--Which one you want to play?: ";

}

return 0;

}

\*/

void title()

{

cout<<"#################################################################"<<endl;

cout<<"## \_\_\_\_\_\_ \_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_ ##"<<endl;

cout<<"## ( \_\_\_ \\ ( \\ ( \_\_\_ )( \_\_\_\_ \\| \\ /\\ ##"<<endl;

cout<<"## | ( ) )| ( | ( ) || ( \\/| \\ / / ##"<<endl;

cout<<"## | (\_\_/ / | | | (\_\_\_) || | | (\_/ / ##"<<endl;

cout<<"## | \_\_ ( | | | \_\_\_ || | | \_ ( ##"<<endl;

cout<<"## | ( \\ \\ | | | ( ) || | | ( \\ \\ ##"<<endl;

cout<<"## | )\_\_\_) )| (\_\_\_\_/\\| ) ( || (\_\_\_\_/\\| / \\ \\ ##"<<endl;

cout<<"## |/ \\\_\_\_/ (\_\_\_\_\_\_\_/|/ \\|(\_\_\_\_\_\_\_/|\_/ \\/ ##"<<endl;

cout<<"## \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_ ##"<<endl;

cout<<"## \\\_\_ \_/( \_\_\_ )( \_\_\_\_ \\| \\ /\\ ##"<<endl;

cout<<"## ) ( | ( ) || ( \\/| \\ / / ##"<<endl;

cout<<"## | | | (\_\_\_) || | | (\_/ / ##"<<endl;

cout<<"## | | | \_\_\_ || | | \_ ( ##"<<endl;

cout<<"## | | | ( ) || | | ( \\ \\ ##"<<endl;

cout<<"## |\\\_) ) | ) ( || (\_\_\_\_/\\| / \\ \\ ##"<<endl;

cout<<"## (\_\_\_\_/ |/ \\|(\_\_\_\_\_\_\_/|\_/ \\/ ##"<<endl;

cout<<"#################################################################"<<endl;

cout<<"\n\nVERSION "<<VERSION<<endl;

return;

}

void setup()

{

//Local variable

bool su\_done=false;

string ck;

string ck2;

//Setup Start

do{

cout<<"Before starting game, you have to set your display as right size"<<endl;

cout<<"It helps you have the best game condition"<<endl;

cout<<"For more information about setup, please check the manual"<<endl;

for(bool b1=false;b1==false;){

cout<<"If you are ready, Please enter 'y' to start configuration: ";

cin>>ck;

if(ck=="y"||ck=="Y"){

blank('#',BWIDTH,23,true);

cout<<"It must excludes any blanks except last two lanes have texts"<<endl;

for(bool b=false;b==false;){

cout<<"Is your configuration done correctly?(y/n): ";

cin>>ck2;

if(ck2=="y"||ck2=="Y"){

cout<<"Setup is done, Thank you for your participation."<<endl;

b=true;

su\_done=true;

}else if(ck2=="n"||ck2=="N"){

blank('#',BWIDTH,23,true);

cout<<"It must excludes any blanks except last two lanes have texts"<<endl;

}else{

blank('#',BWIDTH,23,true);

cout<<"You've typed wrong key."<<endl;

}

}

b1=true;

}else{

cout<<"You've typed wrong key."<<endl;

}

}

}while(su\_done==false);

}

void blank(char shape,int width,int height,bool lend)

{

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

for(int k=0;k<width;k++){

cout<<shape;

}

if(lend==true){cout<<endl;}

}

}

int Intselect(string str)

{

int i;

if(str=="1"){

i=1;

}else if(str=="2"){

i=2;

}else if(str=="3"){

i=3;

}else if(str=="4"){

i=4;

}else if(str=="5"){

i=5;

}else if(str=="6"){

i=6;

}else if(str=="7"){

i=7;

}else if(str=="8"){

i=8;

}else if(str=="9"){

i=9;

}else{

i=0;

}

return i;

}

string IntToString(int n)

{

std::stringstream ss;

ss << n;

return ss.str();

}

string Cards(char c, int n, int l,bool display){

//s - spades, c - clubs, d - diamonds, h - hearts

//1 - ace, 11 - J, 12 - Q, 13 - K

//Lines counts as 9

string str;

char r;

if(c=='s'){r='@';}

else if(c=='c'){r='+';}

else if(c=='d'){r='O';}

else if(c=='h'){r='#';}

switch (l) {

case 1:

str=" \_\_\_\_\_\_\_\_\_ ";

break;

case 2:

if(n==0){str=" | |";}

if(n==1){str=" |A |";}

else if(n==2||n==3||n==4||n==5||n==6||n==7){str=" |";str+=IntToString(n);str+=" |";}

else if(n==8||n==9){str=" |";str+=IntToString(n);str+=" ";str+=r;str+=" ";str+=r;str+=" |";}

else if(n==10){str=" |10";str+=r;str+=" ";str+=r;str+=" |";}

else if(n==11){str=" |J /~~|\_ |";}

else if(n==12){str=" |Q |~~~| |";}

else if(n==13){str=" |K |/|\\| |";}

break;

case 3:

if(n==0){str=" | |";}

if(n==1){

if(c=='s'){str=" |@ \* |";}

else if(c=='c'){str=" |+ \* |";}

else if(c=='d'){str=" |O /~\\ |";}

else if(c=='h'){str=" |# \_ \_ |";}

}else if(n==2||n==4||n==5||n==9||n==8){str=" |";str+=r;str+=" |";}

else if(n==3||n==10){str=" |";str+=r;str+=" ";str+=r;str+=" |";}

else if(n==6||n==7){str=" |";str+=r;str+=" ";str+=r;str+=" ";str+=r;str+=" |";}

else if(n==11){

if(c=='s'){str=" |@ ! -\\ |";}

else if(c=='c'){str=" |+ | o`, |";}

else if(c=='d'){str=" |O ( o\\ |";}

else if(c=='h'){str=" |# % \*`. |";}

}else if(n==12){

if(c=='s'){str=" |@ \\- -/ |";}

else if(c=='c'){str=" |+ /o,o\\ |";}

else if(c=='d'){str=" |O |o.o| |";}

else if(c=='h'){str=" |# %\*,\*% |";}

}else if(n==13){

if(c=='s'){str=" |@ \\- -/ |";}

else if(c=='c'){str=" |+ /o,o\\ |";}

else if(c=='d'){str=" |O |o.o| |";}

else if(c=='h'){str=" |# %\*,\*% |";}

}

break;

case 4:

if(n==0){str=" | |";}

if(n==1){

if(c=='s'){str=" | / \\ |";}

else if(c=='c'){str=" | ! |";}

else if(c=='d'){str=" | / ^ \\ |";}

else if(c=='h'){str=" | / ~V~ \\ |";}

}else if(n==2||n==7){str=" | ";str+=r;str+=" |";}

else if(n==3||n==6){str=" | |";}

else if(n==4||n==5||n==8||n==9||n==10){str=" | ";str+=r;str+=" ";str+=r;str+=" |";}

else if(n==11){

if(c=='s'){str=" | \\ -! |";}

else if(c=='c'){str=" | | -| |";}

else if(c=='d'){str=" | ! \\l |";}

else if(c=='h'){str=" | % <~ |";}

}else if(n==12){

if(c=='s'){str=" | o |-| |";}

else if(c=='c'){str=" | \\\_-\_/ |";}

else if(c=='d'){str=" | \\v/ |";}

else if(c=='h'){str=" | \\\_o\_/ |";}

}else if(n==13){

if(c=='s'){str=" | ! |-| |";}

else if(c=='c'){str=" | \\\_-\_/ |";}

else if(c=='d'){str=" | \\v/ |";}

else if(c=='h'){str=" | \\\_o\_/ |";}

}

break;

case 5:

if(n==0){str=" | |";}

if(n==1){

if(c=='s'){str=" | /\_@\_\\ |";}

else if(c=='c'){str=" | \*-+-\* |";}

else if(c=='d'){str=" | ( <O> ) |";}

else if(c=='h'){str=" | \\ Bej / |";}

}else if(n==2||n==4||n==8||n==10){str=" | |";}

else if(n==3||n==9||n==5){str=" | ";str+=r;str+=" |";}

else if(n==6||n==7){str=" | ";str+=r;str+=" ";str+=r;str+=" |";}

else if(n==11){

if(c=='s'){str=" | ',\\', |";}

else if(c=='c'){str=" | =~)+(\_= |";}

else if(c=='d'){str=" | ^^^Xvvv |";}

else if(c=='h'){str=" | %% / %% |";}

}else if(n==12){

if(c=='s'){str=" | I % I |";}

else if(c=='c'){str=" | \_-~+\_-~ |";}

else if(c=='d'){str=" | XXOXX |";}

else if(c=='h'){str=" | -=<\*>=- |";}

}else if(n==13){

if(c=='s'){str=" | % I % |";}

else if(c=='c'){str=" | ~-\_-~-\_ |";}

else if(c=='d'){str=" | XXXXX |";}

else if(c=='h'){str=" | #>-=-<# |";}

}

break;

case 6:

if(n==0){str=" | |";}

if(n==1){

if(c=='s'){str=" | ! |";}

else if(c=='c'){str=" | | |";}

else if(c=='d'){str=" | \\ v / |";}

else if(c=='h'){str=" | \\ # / |";}

}else if(n==2){str=" | ";str+=r;str+=" |";}

else if(n==3||n==6||n==7){str=" | |";}

else if(n==4||n==5||n==8||n==9||n==10){str=" | ";str+=r;str+=" ";str+=r;str+=" |";}

else if(n==11){

if(c=='s'){str=" | \\ -! |";}

else if(c=='c'){str=" | | -| |";}

else if(c=='d'){str=" | ! \\l |";}

else if(c=='h'){str=" | % <~ |";}

}else if(n==12){

if(c=='s'){str=" | |-| o |";}

else if(c=='c'){str=" | /~-~\\ |";}

else if(c=='d'){str=" | /^\\ |";}

else if(c=='h'){str=" | /~o~\\ |";}

}else if(n==13){

if(c=='s'){str=" | |-| ! |";}

else if(c=='c'){str=" | /~-~\\ |";}

else if(c=='d'){str=" | /^\\ |";}

else if(c=='h'){str=" | /~o~\\ |";}

}

break;

case 7:

if(n==0){str=" | |";}

if(n==1){

if(c=='s'){str=" | ~ ~ @|";}

else if(c=='c'){str=" | ~~~ +|";}

else if(c=='d'){str=" | \\\_/ O|";}

else if(c=='h'){str=" | `.' #|";}

}else if(n==2||n==4||n==5||n==8||n==9){str=" | ";str+=r;str+="|";}

else if(n==3||n==10){str=" | ";str+=r;str+=" ";str+=r;str+="|";}

else if(n==6||n==7){str=" | ";str+=r;str+=" ";str+=r;str+=" ";str+=r;str+="|";}

else if(n==11){

if(c=='s'){str=" | \\- I @|";}

else if(c=='c'){str=" | `.o | +|";}

else if(c=='d'){str=" | \\o ) O|";}

else if(c=='h'){str=" | `,\* % #|";}

}else if(n==12){

if(c=='s'){str=" | /- -\\ @|";}

else if(c=='c'){str=" | \\o`o/ +|";}

else if(c=='d'){str=" | |o'o| O|";}

else if(c=='h'){str=" | %\*'\*% #|";}

}else if(n==13){

if(c=='s'){str=" | /- -\\ @|";}

else if(c=='c'){str=" | \\o`o/ +|";}

else if(c=='d'){str=" | |o'o| O|";}

else if(c=='h'){str=" | %\*'\*% #|";}

}

break;

case 8:

if(n==0){str=" | |";}

if(n==1){str=" | V|";}

else if(n==2){str=" | Z|";}

else if(n==3){str=" | E|";}

else if(n==4){str=" | b|";}

else if(n==5){str=" | S|";}

else if(n==6){str=" | 9|";}

else if(n==7){str=" | L|";}

else if(n==8){str=" | ";str+=r;str+=" ";str+=r;str+=" 8|";}

else if(n==9){str=" | ";str+=r;str+=" ";str+=r;str+=" 6|";}

else if(n==10){str=" | ";str+=r;str+=" ";str+=r;str+="0l|";}

else if(n==11){str=" | ~|\_\_/ P|";}

else if(n==12){str=" | |\_\_\_| Q|";}

else if(n==13){str=" | |\\|/| X|";}

break;

case 9:

str=" ~~~~~~~~~ ";

break;

default:

break;

}

if (n==14) {str=" ";}

if (display==true) {cout<<str;}

return str;

}

/\*

string Cards(char c, int n, int l,bool display){

//s - spades, c - clubs, d - diamonds, h - hearts

//1 - ace, 11 - J, 12 - Q, 13 - K

//Lines counts as 9

string str;

char r;

if(c=='s'){r='@';}

else if(c=='c'){r='+';}

else if(c=='d'){r='O';}

else if(c=='h'){r='#';}

if(l==1||l==9){

if(l==1){str=" \_\_\_\_\_\_\_\_\_ ";}else{str=" ~~~~~~~~~ ";}

}else{

if(l==2){

if(n==1){str=" |A |";}

else if(n==2||n==3||n==4||n==5||n==6||n==7){str=" |";str+=IntToString(n);str+=" |";}

else if(n==8||n==9){str=" |";str+=IntToString(n);str+=" ";str+=r;str+=" ";str+=r;str+=" |";}

else if(n==10){str=" |10";str+=r;str+=" ";str+=r;str+=" |";}

else if(n==11){str=" |J /~~|\_ |";}

else if(n==12){str=" |Q |~~~| |";}

else if(n==13){str=" |K |/|\\| |";}

}else if(l==3){

if(n==1){

if(c=='s'){str=" |@ \* |";}

else if(c=='c'){str=" |+ \* |";}

else if(c=='d'){str=" |O /~\\ |";}

else if(c=='h'){str=" |# \_ \_ |";}

}else if(n==2||n==4||n==5||n==9||n==8){str=" |";str+=r;str+=" |";}

else if(n==3||n==10){str=" |";str+=r;str+=" ";str+=r;str+=" |";}

else if(n==6||n==7){str=" |";str+=r;str+=" ";str+=r;str+=" ";str+=r;str+=" |";}

else if(n==11){

if(c=='s'){str=" |@ ! -\\ |";}

else if(c=='c'){str=" |+ | o`, |";}

else if(c=='d'){str=" |O ( o\\ |";}

else if(c=='h'){str=" |# % \*`. |";}

}else if(n==12){

if(c=='s'){str=" |@ \\- -/ |";}

else if(c=='c'){str=" |+ /o,o\\ |";}

else if(c=='d'){str=" |O |o.o| |";}

else if(c=='h'){str=" |# %\*,\*% |";}

}else if(n==13){

if(c=='s'){str=" |@ \\- -/ |";}

else if(c=='c'){str=" |+ /o,o\\ |";}

else if(c=='d'){str=" |O |o.o| |";}

else if(c=='h'){str=" |# %\*,\*% |";}

}

}else if(l==4){

if(n==1){

if(c=='s'){str=" | / \\ |";}

else if(c=='c'){str=" | ! |";}

else if(c=='d'){str=" | / ^ \\ |";}

else if(c=='h'){str=" | / ~V~ \\ |";}

}else if(n==2||n==7){str=" | ";str+=r;str+=" |";}

else if(n==3||n==6){str=" | |";}

else if(n==4||n==5||n==8||n==9||n==10){str=" | ";str+=r;str+=" ";str+=r;str+=" |";}

else if(n==11){

if(c=='s'){str=" | \\ -! |";}

else if(c=='c'){str=" | | -| |";}

else if(c=='d'){str=" | ! \\l |";}

else if(c=='h'){str=" | % <~ |";}

}else if(n==12){

if(c=='s'){str=" | o |-| |";}

else if(c=='c'){str=" | \\\_-\_/ |";}

else if(c=='d'){str=" | \v/ |";}

else if(c=='h'){str=" | \\\_o\_/ |";}

}else if(n==13){

if(c=='s'){str=" | ! |-| |";}

else if(c=='c'){str=" | \\\_-\_/ |";}

else if(c=='d'){str=" | \v/ |";}

else if(c=='h'){str=" | \\\_o\_/ |";}

}

}else if(l==5){

if(n==1){

if(c=='s'){str=" | /\_@\_\\ |";}

else if(c=='c'){str=" | \*-+-\* |";}

else if(c=='d'){str=" | ( <O> ) |";}

else if(c=='h'){str=" | \\ Bej / |";}

}else if(n==2||n==4||n==8||n==10){str=" | |";}

else if(n==3||n==9){str=" | ";str+=r;str+=" |";}

else if(n==6||n==7){str=" | ";str+=r;str+=" ";str+=r;str+=" |";}

else if(n==11){

if(c=='s'){str=" | ',\', |";}

else if(c=='c'){str=" | =~)+(\_= |";}

else if(c=='d'){str=" | ^^^Xvvv |";}

else if(c=='h'){str=" | %% / %% |";}

}else if(n==12){

if(c=='s'){str=" | I % I |";}

else if(c=='c'){str=" | \_-~+\_-~ |";}

else if(c=='d'){str=" | XXOXX |";}

else if(c=='h'){str=" | -=<\*>=- |";}

}else if(n==13){

if(c=='s'){str=" | % I % |";}

else if(c=='c'){str=" | ~-\_-~-\_ |";}

else if(c=='d'){str=" | XXXXX |";}

else if(c=='h'){str=" | #>-=-<# |";}

}

}else if(l==6){

if(n==1){

if(c=='s'){str=" | ! |";}

else if(c=='c'){str=" | | |";}

else if(c=='d'){str=" | \\ v / |";}

else if(c=='h'){str=" | \\ # / |";}

}else if(n==2){str=" | ";str+=r;str+=" |";}

else if(n==3||n==6||n==7){str=" | |";}

else if(n==4||n==5||n==8||n==9||n==10){str=" | ";str+=r;str+=" ";str+=r;str+=" |";}

else if(n==11){

if(c=='s'){str=" | \\ -! |";}

else if(c=='c'){str=" | | -| |";}

else if(c=='d'){str=" | ! \\l |";}

else if(c=='h'){str=" | % <~ |";}

}else if(n==12){

if(c=='s'){str=" | |-| o |";}

else if(c=='c'){str=" | /~-~\\ |";}

else if(c=='d'){str=" | /^\\ |";}

else if(c=='h'){str=" | /~o~\\ |";}

}else if(n==13){

if(c=='s'){str=" | |-| ! |";}

else if(c=='c'){str=" | /~-~\\ |";}

else if(c=='d'){str=" | /^\\ |";}

else if(c=='h'){str=" | /~o~\\ |";}

}

}else if(l==7){

if(n==1){

if(c=='s'){str=" | ~ ~ @|";}

else if(c=='c'){str=" | ~~~ +|";}

else if(c=='d'){str=" | \\\_/ O|";}

else if(c=='h'){str=" | `.' #|";}

}else if(n==2||n==4||n==5||n==8||n==9){str=" | ";str+=r;str+="|";}

else if(n==3||n==10){str=" | ";str+=r;str+=" ";str+=r;str+="|";}

else if(n==6||n==7){str=" | ";str+=r;str+=" ";str+=r;str+=" ";str+=r;str+="|";}

else if(n==11){

if(c=='s'){str=" | \\- I @|";}

else if(c=='c'){str=" | `.o | +|";}

else if(c=='d'){str=" | \\o ) O|";}

else if(c=='h'){str=" | `,\* % #|";}

}else if(n==12){

if(c=='s'){str=" | /- -\\ @|";}

else if(c=='c'){str=" | \\o`o/ +|";}

else if(c=='d'){str=" | |o'o| O|";}

else if(c=='h'){str=" | %\*'\*% #|";}

}else if(n==13){

if(c=='s'){str=" | /- -\\ @|";}

else if(c=='c'){str=" | \\o`o/ +|";}

else if(c=='d'){str=" | |o'o| O|";}

else if(c=='h'){str=" | %\*'\*% #|";}

}

}else if(l==8){

if(n==1){str=" | V|";}

else if(n==2){str=" | Z|";}

else if(n==3){str=" | E|";}

else if(n==4){str=" | b|";}

else if(n==5){str=" | S|";}

else if(n==6){str=" | 9|";}

else if(n==7){str=" | L|";}

else if(n==8){str=" | ";str+=r;str+=" ";str+=r;str+=" 8|";}

else if(n==9){str=" | ";str+=r;str+=" ";str+=r;str+=" 6|";}

else if(n==10){str=" | ";str+=r;str+=" ";str+=r;str+="0l|";}

else if(n==11){str=" | ~|\_\_/ P|";}

else if(n==12){str=" | |\_\_\_| Q|";}

else if(n==13){str=" | |\\|/| X|";}

}

}

if (display==true) {cout<<str;}

return str;

}

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