四详细设计

在程序的开头部分定义要用到的头文件，以及各种常量如石头剪刀布输出结果等，设定各常

量的类型，代码如下。

#include "stdafx.h"

#include<iostream>

using namespace std;

int sum = 0;

class chengji

{

public:

chengji(int a = 0, int b = 0, int c = 0)//=======默认构造函数

{

win = a;

los = b;

tie = c;

}

void gshow();

friend void bijiao(int a, int b);//=======要对私有成员进行处理，定义为友元函数

private:

int win;

int los;

int tie;

}ni;

void chengji::gshow()

{

cout << "游戏的总次数为: " << sum << endl;

cout << "此时游戏结果为下:" << endl;

cout << "=========|你|电脑|===" << endl;cout << "获胜的次数|" << this->win << "|"<<sum-win-tie<<" | "<<endl;

cout << "战输的次数|" << this->los << "|"<<sum-los-tie<<" | "<<endl;

cout << "====" << endl;

cout << "平局的次数为: " << tie << endl;

}

void tishi()

{

cout << "石头剪刀布游戏" << endl;

cout << "在这个游戏中" << endl;

cout << "c 表示布" << endl;

cout << "h 表示石头" << endl;

cout << "s 表示剪刀" << endl;

cout << "游戏者和机器都只选择 c,h,s 中的一个.如果二者的选择相同" << endl;

cout << "那么这一局就是平局同时胜负规则为:" << endl;

cout << "布和石头,则布获胜" << endl;

cout << "石头和剪刀, 则石头获胜" << endl;

cout << "剪刀和布， 则剪刀获胜 " << endl;

cout << "在游戏中，请根据提示，键入关键字词然后以回车键确认" << endl;

cout << "关键字词如下:" << endl;

cout << "- g 表示显示此时的游戏结果" << endl;

cout << "- p 表示获取游戏帮助" << endl;

cout << "- i 表示获取游戏知道信息" << endl;

cout << "- q 表示退出游戏程序" << endl;

}

void help()//帮助函数 p 字符的处理

{

cout << "你可以输入以下字符" << endl;

cout << "- c 表示布" << endl;

cout << "- h 表示锤子" << endl;

cout << "- s 表示剪刀" << endl;

cout << "- g 查看游戏结果" << endl;

cout << "- p 字符输入帮助" << endl;

cout << "- i 重新打印出游戏指导信息" << endl;

cout << "- q 退出游戏程序" << endl;

}

int mach()// 计算电脑出值的函数

{

static int i;

i = ++i % 3;

return((i == 0) ? 3 : ((i == 1) ? 1 : 2));

}

int select()//选择输入函数

{

int sele;char x;

cout << "请输入'c'布-'h'石尖-'s'剪刀-'g'結果-'p'幇助-'i'疑向-'q'退出" << endl;

while (1)

{

cin >> x;

if (x == 'c'|| x == 'h' || x == 's' || x == 'g' || x == 'p' || x == 'i' || x == 'q') {

break;

}

};

switch (x) {

case'h':sele = 1; break;//1 表示 石头

case's':sele = 2; break;//2 表示 剪刀

case'c':sele = 3; break;//3 表示 布

case'g':sele = 0; ni.gshow(); break;

case'p':sele = 0; help(); break;

case'i':sele = 0; tishi(); break;

case'q':sele = 4; break;

}

return sele;

}

void bijiao(int a, int b)//形参 a 表示的是自己的选择，b 表示的是电脑玩家的选择

{

if (a == 1)

{

if (b == 1) {

ni.tie++;

cout << "你出 石头" << endl;

cout << "电脑 石头" << endl;

cout << " 此局为平局" << endl;

}

else if (b == 2) {

ni.win++;

cout << "你出 石头" << endl;

cout << "电脑 剪刀" << endl;

cout << "你赢啦!!!!!!" << endl;

}

else {

ni.los++;

cout << "你出 石头" << endl;

cout << "电脑 布" << endl;

cout << "很遗憾!!!!!" << endl;

}

}

else if (a == 2){

if (b == 1) {

ni.los++;

cout << "你出剪刀" << endl;

cout << "电脑 石头" << endl;

cout << "你输了!!!!!" << endl;

}

else if (b == 2) {

ni.tie++;

cout << "你出剪刀" << endl;

cout << "电脑剪刀" << endl;

cout << "此局为平局" << endl;

}

else {

ni.win++;

cout << "你出 剪刀" << endl;

cout << "电脑 布" << endl;

cout << "你赢啦!!!!!" << endl;

}

}

else

{

if (b == 1) {

ni.win++;

cout << "你出 布" << endl;

cout << "电脑 石头" << endl;

cout << "你贏啦!!!!!" << endl;

}

else if (b == 2) {

ni.los++;

cout << "你出 布" << endl;

cout << "电脑 剪刀" << endl;

cout << "很遗憾!!!!!" << endl;

}

else {

ni.tie++;

cout << "你出布" << endl;

cout << "电脑布" << endl;

cout << "此局为平局" << endl;

}

}

}

int main()

{tishi();

int nval = 0, dval = 0;

while (1)

{

nval = select();

if (nval == 4) break;

if (nval != 0)

{

sum++;

dval = mach();

bijiao(nval, dval);

}

};

return 0;

}