**C++的学习之旅 开始啦！**

发牌程序

#include <iostream>  
#include <cstdlib>  
#include <ctime>  
**using namespace** std;  
  
**int** main() {  
**int** i,card,r,deck[52];  
 **int** tag=0;  
 **char** pok\_C[4][5]={"ht","ot","mh","fk"};  
 **char** pok\_N[13][3]={"A","2","3","4","5","6","7","8","9","10","J","Q","K"};  
 srand((**unsigned**)time(0));  
 **for** (i = 0; i < 52; i++)  
 {  
 deck[i]=0 ;  
 }  
 **for** (card = 0; card <=52 ; card++)  
 {  
 r=rand()%52;  
 **while**(deck[r]!=0)  
 {  
 r=rand()%52;  
  
 }  
 deck[r]=card;  
  
 }  
 cout<<"player1\tplayer2\tplayer3\tplayer4\n";  
 cout<<"--------------------------\n";  
 **for** ( i = 0; i < 52; i++)  
 {  
 cout<<pok\_C[(deck[i]-1)/13]<<pok\_N[(deck[i]-1)%13]<<'\t';  
 **if** (i%4==3) cout<<endl;  
  
 }  
 system("pause");  
 **return** 0;  
  
}

利用指针进行实参的转换

#include <iostream>  
**using namespace** std;  
**void** swap(**int**\*,**int**\*);  
**int** main(){  
 **int** a=3,b=8;  
 cout<<a<<" "<<b<<endl;  
 swap(&a,&b);  
 cout<<"after swap\n\n";  
 cout<<a<<" "<<b<<endl;;  
 **return** 0;  
  
}  
**void** swap(**int** \*x,**int** \*y)  
{  
 **int** temp=\*x;  
 \*x=\*y;  
 \*y=temp;  
  
}

利用指针进行字符串复制

#include <iostream>  
**using namespace** std;  
**void** copy(**char** \*from,**char** \*to)  
{  
 **for** (; \*from!='\0' ; from++,to++)  
 \*to=\*from;  
 \*to='\0';  
  
}  
  
**int** main() {  
 **char** a[20]="c++ is a";  
 **char** b[20];  
 copy(a,b);  
 cout<<a<<endl;  
 cout<<b<< endl;  
 system("pause");  
 **return** 0;  
}

键入学生信息的结构体测试：

#include <iostream>  
**using namespace** std;  
**const int** n=5;  
**struct** student  
 {  
 **long** number;  
 **char** name[12];  
 **float** score[4];  
  
 } stu[n];  
  
**void** input();  
**void** cal();  
**void** output();  
  
  
**int** main()  
{  
 input();  
 cal();  
 output();  
 **return** 0;  
}  
  
  
**void** input()  
{  
 cout<<"input your number name and scores:"<<" "<< "\n";  
 **for** (**int** i = 0; i < n; i++)  
 {  
 cout<<i<<" number:\n";  
 cin>>stu[i].number;  
 **if** (stu[i].number==0) **break**;  
 cout<<"name:\n";cin>>stu[i].name;  
 cout<<"Chinese:\n";cin>>stu[i].score[0];  
 cout<<"Math:\n";cin>>stu[i].score[1];  
 cout<<"English:\n";cin>>stu[i].score[2];  
 }  
}  
  
**void** cal()  
{  
 **for** (**int** i = 0; i <n ; i++)  
 {  
 **if** (stu[i].number==0) **break**;  
 stu[i].score[3]=(stu[i].score[0]+stu[i].score[1]+stu[i].score[2])/3;  
  
 }  
}  
  
**void** output()  
{  
 **for** (**int** i = 0; i <n ; i++)  
 {  
 **if**(stu[i].number==0) **break**;  
 cout<<i<<":"<<stu[i].number<<" "<<stu[i].name<<" ";  
 **for** (**int** j = 0; j <=3 ; j++)  
 cout<<stu[i].score[j]<<" ";  
 cout<<endl;  
  
 }  
 system("pause");  
}

指向结构体的指针的测试：

#include <iostream>  
**using namespace** std;  
**const int** n=5;  
**struct** student  
 {  
 **long** number;  
 **char** name[12];  
 **float** score[4];  
  
 } stu[3],\*p;  
  
  
  
**int** main()  
{  
 **for** (**int** i = 0; i <3 ; i++)  
 {  
 stu[i].number=i;  
  
 }  
p=stu;  
p++;  
 cout<<(\*p).number;  
 **return** 0;  
}

共用体的测试：

#include <iostream>  
#include <iomanip>  
**using namespace** std;  
  
**struct** person{  
 **char** name[12];  
 **int** age;  
 **int** pr;  
 **union** level{  
 **int** grade;  
 **char** rank[20];  
 **char** title[20];  
 } m;  
};  
  
**int** main(){  
 person body[20];  
 **int** i;  
 **for** (**int** i = 0; i <3 ; i++)  
 {  
 cout<<"input your name,age,level(0:stu,1:worker,2:perfession):\n";  
 cout<<"name:";  
 cin>>body[i].name;  
 cout<<"age:";  
 cin>>body[i].age;  
 cout<<"level:";  
 cin>>body[i].pr;  
 **if**(body[i].pr==0)  
 {  
 cout<<"input your grade";  
 cin>>body[i].m.grade;  
  
 } **else if**(body[i].pr==1)  
 {  
 cout<<"input your rank";  
 cin>>body[i].m.rank;  
  
 }**else if**(body[i].pr==2)  
 {  
 cout<<"input your title";  
 cin>>body[i].m.title;  
  
 }  
  
  
 }  
 cout<<" name age level\n";  
 **for** (**int** i = 0; i < 3; i++)  
 {  
 cout<<setw(10)<<body[i].name<<setw(5)<<body[i].age<<"\n";  
 **if**(body[i].pr==0) cout<<setw(20)<<body[i].m.grade<<"\t";  
 **if**(body[i].pr==1) cout<<setw(20)<<body[i].m.rank<<"\t";  
 **if**(body[i].pr==2) cout<<setw(20)<<body[i].m.title<<"\t";  
 cout<<endl;  
  
  
 }  
 system("pause");  
 **return** 0;  
}

枚举类型排布值班表：

#include <iostream>  
#include <iomanip>  
**using namespace** std;  
**int** main(){  
 **enum** peo{*zhang*,*li*,*wang*,*qian*};  
 peo day[31],j;  
 j=*zhang*;  
 **for** (**int** i = 1; i < 31; i++)  
 {  
 day[i]=j;  
 j=(**enum** peo)(j+1);  
 **if**(j>*qian*) j=*zhang*;  
  
 }  
  
 **for** (**int** i = 0; i < 31; i++)  
 {  
 **switch**(day[i])  
 {  
 **case** *zhang*:cout<<setw(4)<<i<<":"<<setw(6)<<"zhang";  
 **break**;  
 **case** *li*:cout<<setw(4)<<i<<":"<<setw(6)<<"li";  
 **break**;  
 **case** *wang*:cout<<setw(4)<<i<<":"<<setw(6)<<"wang";  
 **break**;  
 **case** *qian*:cout<<setw(4)<<i<<":"<<setw(6)<<"qian";  
 **break**;  
 **default**:  
 **break**;  
  
 }  
 **if**(i%5==0) cout<<endl;  
  
 }  
 system("pause");  
 **return** 0;  
  
}

利用单循环链表解决约瑟夫问题：

#include <iostream>  
#include <iomanip>  
**using namespace** std;  
 **struct** node{  
 **int** info ;  
 node \*next;  
  
 };  
  
  
node \*create(**int** n )  
{  
 node \*q=NULL,\*p,\*head=NULL;  
 **for** (**int** i = 1; i <=n ; i++)  
 {  
 p=**new** node;  
 p->info =i;  
 **if**(i==1) head=p;  
 **else** q->next=p;  
 q=p;  
  
 }  
 q->next=head;  
 **return** head;  
  
}  
  
**void** visit(node \*p,**int** m)  
{  
 **int** i;  
 node \*q=p;  
 **while**(p->next!=p)  
 {  
 **for** (**int** i = 1; i <m-1 ; i++)  
 {  
 p=p->next;  
 }  
 **if**(p->next!=p)  
 {  
 q=p->next;  
 cout<<q->info<<',';  
 p->next=q->next;  
 **delete** q;  
  
 }  
 p=p->next;  
  
 }  
 cout<<"Last man :"<<p->info<<endl;  
  
}  
  
**void** disp(node \*p)  
{  
 node \*q=p;  
 cout<<setw(3)<<q->info;  
 q=q->next;  
 **while**(q!=p)  
 {  
 cout<<setw(3)<<q->info;  
 q=q->next;  
  
 }  
 cout<<endl;  
  
}  
  
**int** main()  
{  
 **int** m,n;  
 node \*head;  
 cout<<"input number of guys: ";  
 cin>>n;  
 head=create(n);  
 disp(head);  
 cout<<"input number of number:";  
 cin>>m;  
 visit(head,m);  
 system("pause");   
 **return** 0;  
  
}

类的初体验：

#include <iostream>  
**using namespace** std;  
  
**class** day  
{  
**public**:  
 **void** out();  
 **int** month;  
 **int** day;  
  
};  
  
**int** main()  
{  
 day today;  
 cout<<"input today's month:";  
 cin>>today.day;  
 cout<<endl;  
 cout<<"input today's month:";  
 cin>>today.month;  
 cout<<endl;  
 today.out();  
 system("pause");  
 **return** 0;  
}  
  
**void** day::out() {  
 cout<<"month:"<<month<<", day:"<<day<<endl;  
}

构造函数，析构函数初使用！：

#include <iostream>  
#include <cstring>  
**using namespace** std;  
  
**class** ct  
{  
**public**:  
 ct(**char** \*n,**int** a) {  
 name =**new char**[strlen(n)+1];  
 strcpy(name,n);  
 age=a;  
 cout<<"Do it!";  
 }  
 ~ct()  
 {  
 **delete** name;  
 cout<<"fuck it!"<<endl;  
 }  
 **void** show()  
 {  
 cout<<"name:"<<name<<",age:"<<age<<endl;  
  
 }  
  
**private**:  
 **char** \*name;  
 **int** age;  
};  
**int** main()  
{  
 ct t1("wangyong",35);  
 t1.show();  
 system("pause");  
 **return** 0;  
}

类的静态成员的使用：

#include <iostream>  
#include <cstring>  
**using namespace** std;  
  
**class** ct  
{  
**public**:  
 ct(**int** i,string na) {  
 id=i;  
 name=na;  
 noo++;  
 }  
  
 ~ct()  
 {  
 noo--;  
 }  
 **static int** show()  
 {  
 **return** noo;  
 }  
 **void** print(){  
 cout<<"name\n" <<name<<"\nnumber"<<id<<endl;  
  
 }  
**private**:  
 **int** id;  
 string name;  
 **static int** noo;  
};  
**int** ct::noo=0;  
  
**int** main()  
{  
 cout<<"sum of stu:\t"<<ct::show()<<"\n"<<endl;  
 ct s1(1001,"zhangsan");  
 s1.print();  
 cout<<endl;  
 cout<<"sum of stu:\t"<<ct::show()<<endl;  
  
 system("pause");  
 **return** 0;  
}

运算符重载用于某一个数据成员的运算：

#include <iostream>  
**using namespace** std;  
  
**class** complex{  
**public**:  
 complex(**double** r=0,**double** i=0)  
 {  
 real=r;  
 image=i;  
 };  
  
 **void** print();  
 complex **operator** +(**const** complex &c);  
  
**private**:  
 **double** real,image;  
  
};  
  
**void** complex::print(){  
 **if**(image<0) cout<<real<<image<<'i';  
 **else** cout<<real<<'+'<<image<<'i';  
 cout<<endl;  
  
}  
  
complex complex::**operator**+(**const** complex &c)  
{  
 complex t;  
 t.real=real+c.real;  
 t.image=image+c.image;  
 **return** t;  
}  
  
**int** main()  
{  
 complex c1(25,50),c2(100,200),c3;  
 c3=c1+c2;  
 cout<<"c3=c2+c1=";  
 c3.print();  
 system("pause");  
 **return** 0;  
}

纯虚函数以及抽象类的使用：

#include <iostream>  
**using namespace** std;  
  
**class** cperson{  
**public**:  
 **virtual void** info(){  
 cout<<"man~~~";  
 };//抽象类中的普通成员函数，虽然有virtual 但是还是没有正确标注  
 **virtual void** salary(**int** m,**int** s)=0;//这才是正确标注，给定参数表且=0；  
  
};  
  
  
**class** cworker:**public** cperson  
{  
**public**:  
 **void** info(){  
 cout<<"工人\n";  
  
 }  
 **void** salary(**int** m,**int** s)  
 {  
 cout<<"工人的工资是："<<m\*s;  
 cout<<"\n";  
  
 }  
  
**private**:  
 **int** kindofworker;  
  
};  
  
**class** cdoctor:**public** cperson  
{  
**public**:  
 **void** info(){  
 cout<<"医生\n";  
  
 }  
 **void** salary(**int** m,**int** s)  
 {  
 cout<<"医生的工资是："<<m\*s;  
 cout<<"\n";  
  
 }  
  
**private**:  
 **int** spectilty;  
  
};  
  
**int** main()  
{  
 cworker worker;  
 cdoctor doctor;  
 cperson \*person;  
  
 person=&worker;  
 person->info();  
 person->salary(12,3000);  
 person=&doctor;  
 person->info();  
 person->salary(10,10000);  
 system("pause");  
 **return** 0;  
}

文本文件的输入输出

#include <fstream>  
#include <fstream>  
#include <iostream>  
**using namespace** std;  
  
**int** main()  
{  
 **char** ch,ch1,f1[256],f2[256],f3[256];  
 cout<<"input yuan file";  
 cin>>f1;  
 cin>>f2;  
 cout<<"input shuchu file";  
 cin>>f3;  
 ifstream in(f1,ios::in);  
 ifstream put(f2,ios::in);  
 ofstream out(f3);  
 **if**(!in&&!put){cout<<"\n不能打开源文件: "<<f1<<f2;  
 **return** -1;  
 };  
 **if**(!out) {  
 cout<<"不能打开输出文件: "<<f2;  
 **return** -1;  
  
 }  
 in.unsetf(ios::skipws);  
  
 **while** (in>>ch&&put>>ch1)  
 out<<ch1<<ch;  
 in.close();  
 put.close();  
 out<<"\n我觉得还是追加点东西比较好~~";  
 out.close();  
 cout<<"复制完毕\n";  
 system("pause");  
 **return** 0;  
  
}

**C++实战 开始了！！**

**第一战：银行卡管理系统实现**

**CMakeLists.txt**

cmake\_minimum\_required(VERSION 3.7)  
project(C\_\_)  
  
set(CMAKE\_CXX\_STANDARD 11)  
  
set(SOURCE\_FILES src/main.cpp)  
  
file(GLOB SOURCES  
 "src/\*\*/\*.cpp"  
 "src/\*\*/\*.hpp"  
 "src/\*\*/\*.h"  
 "src/\*.h"  
 "src/\*.cpp"  
 "src/\*.c"  
 )  
  
add\_executable(C\_\_ ${SOURCE\_FILES} ${SOURCES})  
set(CMAKE\_CXX\_FLAGS "${CMAKE\_CXX\_FLAGS} -Wall -std=c++0x")

**main.cpp**

#include <iostream>  
#include <cstring>  
#include <fstream>  
#include<stdlib.h>  
#include<iomanip>  
#include<time.h>  
#include "CardOperate.h"  
#include "LogOperate.h"  
  
#define Length 100·  
  
**using namespace** std;  
  
**void** CreateNewCard();  
**void** Logoperate(**int** cd);  
**void** MainInterFace();  
**void** logcard();  
  
  
  
**int** main()  
{  
 **char** select;  
 **int** CardID;  
 **do** {  
 MainInterFace();  
 cin>>select;  
 **switch**(select)  
 {  
 **case** '1':  
 { CreateNewCard(); };  
 **case** '2':  
 {  
 cout<<"\n请输入卡号：";  
 cin>>CardID;  
 Logoperate(CardID);  
 }  
 **case** '0': **break**;  
 **default**:cout<<"Man? F\*\*k U!\n"<<endl;  
  
 }  
 } **while**(select!='0');  
  
**return** 0;  
}  
  
  
**void** CreateNewCard()  
{  
 **char** filename[Length];  
 Card t\_cd;  
 **int** i\_cd;  
 **char** s\_name[Length];  
 cout<<"\n输入卡号吧：";  
 cin>>i\_cd;  
 cout<<"请输入用户名：";  
 cin>>s\_name;  
 t\_cd.Cardno=i\_cd;  
 strcpy(t\_cd.username,s\_name);  
 t\_cd.sum=0;  
 itoa(t\_cd.Cardno,filename,10);  
 fstream writefile(strcat(filename,".txt"),ios::out);  
 writefile.write((**char** \*)&t\_cd,**sizeof**(t\_cd));  
 writefile.close();  
}  
  
  
  
**void** Logoperate( **int** CardID)  
{  
 **char** in;  
 **double** money;  
 CardOperate cdop(CardID);  
 **do** {  
 logcard();  
 cin>>in;  
 **switch** (in)  
 {  
 **case** '1': {  
 cout << "请输入存款金额：";  
 cin >> money;  
 cdop.CardIn(money);  
 **break**;}  
  
 **case** '2': {  
 cout << "请输入取款金额：";  
 cin >> money;  
 cdop.CardOut(money);  
 **break**;  
  
 }  
  
 **case** '3':  
 {  
 cdop.listlog();  
 **break**;  
  
 }  
 **case** '0':  
 {  
 **break**;  
  
 }  
 **default**:cout<<"FXXk you Man?\n";  
 }  
 } **while** (in!='0');  
}  
  
  
  
  
**void** MainInterFace()  
{  
 cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"<<endl;  
 cout<<"\* 你的银行卡管家 \*"<<endl;  
 cout<<"\* \*"<<endl;  
 cout<<"\* 1.创建新卡 \*"<<endl;  
 cout<<"\* \*"<<endl;  
 cout<<"\* 2.登陆卡号 \*"<<endl;  
 cout<<"\* \*"<<endl;  
 cout<<"\* 0. EXIT \*"<<endl;  
 cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"<<endl;  
}  
  
  
  
  
**void** logcard()  
{  
 cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"<<endl;  
 cout<<"\* \*"<<endl;  
 cout<<"\* 1.存款 \*"<<endl;  
 cout<<"\* \*"<<endl;  
 cout<<"\* 2.取款 \*"<<endl;  
 cout<<"\* \*"<<endl;  
 cout<<"\* 3.读取日志 \*"<<endl;  
 cout<<"\* \*"<<endl;  
 cout<<"\* 0.EXIT \*"<<endl;  
 cout<<"\* \*"<<endl;  
 cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"<<endl;  
  
}

**main.h**

#define CDNO 6  
#define LENGTH 20  
#include<iostream>  
#include<fstream>  
#include<string.h>  
#include<stdlib.h>  
#include<iomanip>  
#include<time.h>  
**struct** Card //定义卡的信息结构体  
{  
 **int** Cardno;  
  
 **char** username[LENGTH];  
  
 **double** sum;  
};  
  
  
**struct** Log //定义登录日志信息  
{  
  
 **int** Cardno;  
  
 **char** date[64];  
  
 **char** type[6];  
  
 **double** money;  
  
 **double** sum;  
};

**CardOperate.h**

#include<iostream>  
#include<fstream>  
#include<string.h>  
#include<stdlib.h>  
#include<iomanip>  
#include<time.h>  
#define CDNO 6  
#include"main.h"  
  
  
**class** CardOperate  
{  
**public**:  
  
 CardOperate(**int** cardindex){};//构造函数  
  
 ~CardOperate(){};//析构函数  
  
 **void** CardIn(**double** m);//存款操作模块  
  
 **void** CardOut(**double** m);//取款操作模块  
  
 **void** listlog();//查询存取款日志  
  
**private**:  
 Card card;  
  
 Log lg;  
  
 **char** filename[CDNO];  
  
 time\_t t;  
  
 **char** datatime[64];  
};

**CardOperate.cpp**

#include<iostream>  
#include<fstream>  
#include<string.h>  
#include<stdlib.h>  
#include<iomanip>  
#include<time.h>  
#define CDNO 6  
#include "CardOperate.h"  
#include "Logoperate.h"  
  
**using namespace** std;  
  
  
**void** CardOperate::CardIn(**double** m)  
{  
 t=time(0);  
 card.sum+=m;  
 lg.Cardno=card.Cardno;  
 strftime(datatime,**sizeof**(datatime),"%Y年/%m月/%d日%H时%M分%S秒",localtime(&t));  
 strcpy(lg.date,datatime);  
 strcpy(lg.type,"存钱");  
 lg.money=m;  
 lg.sum=card.sum;  
 cout<<setiosflags(ios::fixed);  
 cout<<endl<<"卡号："<<card.Cardno<<" "<<"当前总金额："<<setprecision(2)<<card.sum<<endl;  
 LogOperate l\_file(card.Cardno);  
 l\_file.writelog(lg);  
}  
  
**void** CardOperate::CardOut(**double** m)  
{  
 **if** (card.sum>=m)  
 {  
 t=time(0);  
 card.sum-=m;  
 lg.Cardno=card.Cardno;  
 strftime(datatime,**sizeof**(datatime),"%Y年/%m月/%d日%H时%M分%S秒",localtime(&t));  
 strcpy(lg.date,datatime);  
 strcpy(lg.type,"取钱");  
 lg.money=m;  
 lg.sum=card.sum;  
 cout<<setiosflags(ios::fixed);  
 cout<<endl<<"卡号："<<card.Cardno<<" "<<"当前总金额："<<setprecision(2)<<card.sum<<endl;  
 LogOperate l\_file(card.Cardno);  
 l\_file.writelog(lg);  
  
 }  
 **else** {  
 cout<<"\n警告："<<"交易失败，您的账户余额不足！存钱吧小伙子~~\n"<<endl;  
  
 }  
}  
  
  
**void** CardOperate::listlog()  
{  
 LogOperate l\_file(card.Cardno);  
 l\_file.listlog();  
  
}

**LogOperate.h**

#include<iostream>  
#include<fstream>  
#include<string.h>  
#include<stdlib.h>  
#include<iomanip>  
#include<time.h>  
#define CDNO 6  
  
**class** LogOperate  
{  
 **char** Cardlog[CDNO];  
  
 Log lf[100];  
  
 **int** top;  
  
 **int** Cardno;  
  
**public**:  
  
 LogOperate(**int** n)  
 {  
 Cardno=n;  
 top=-1;  
 };  
  
 ~LogOperate()  
 { };  
  
 **void** readlog();  
  
 **void** writelog(Log lg);  
  
 **void** listlog();  
};

**LogOperate.cpp**

#include<iostream>  
#include<fstream>  
#include<string.h>  
#include<stdlib.h>  
#include<iomanip>  
#include<time.h>  
#define CDNO 6  
#include "CardOperate.h"  
#include "Logoperate.h"  
**using namespace** std;  
  
**void** LogOperate::readlog()  
{  
 Log l;  
 itoa(Cardno,Cardlog,10);  
 fstream file(strcat(Cardlog,"Log"),ios::in);  
 **while**(1)  
 {  
 file.read((**char** \*)&l, **sizeof**(l));  
 **if**(!file) **break**;  
 top++;  
 lf[top]=l;  
 }  
 file.close();  
}  
  
  
  
**void** LogOperate::writelog(Log lg)  
{  
 readlog();  
 top++;  
 lf[top]=lg;  
 fstream file(Cardlog,ios::out);  
 **for** (**int** i = 0; i <=top ; i++)  
 {  
 file.write((**char** \*)&lf[i], **sizeof**(lf[i]));  
 }  
 file.close();  
}  
  
  
**void** LogOperate::listlog()  
{  
 readlog();  
 **for** (**int** i = 0; i <= top; i++)  
 {  
 cout << "卡号：" << lf[i].Cardno << "日期：" << lf[i].date << "方式："  
 << lf[i].type << "输入金额：" << lf[i].money << "总金额：" << lf[i].sum << endl;  
 }  
}