#pragma warning(disable:4996)//该语句解决scanf函数等安全报错问题（直接忽视）

#include <stdio.h>

#include<math.h>

#include "time.h"

int head() //显示菜单选择界面，返回功能值

{

int select;

printf("\n\n");

printf("\t\t\t<--欢迎使用万年历-->\n\n");

printf("\t\t\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n");

printf("\t\t请选择要使用的功能：\n\n");

printf("\t\t\t1.查看当年年历或当月月历\n");

printf("\t\t\t2.搜素某年的年历或某月的日历\n");

printf("\t\t\t3.查询历史上某日为星期几\n");

printf("\t\t\t4.判断历史上某年是否为闰年\n");

printf("\t\t\t5.查询某一日期距今天的天数\n");

printf("\t\t\t6.退出查询\n");

printf("\t\t\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n");

printf("\t\t\t请选择<1,2,3,4,5,6>：");

scanf("%d",&select);

printf("\n");

return(select);

}

void searchhead(int year,int month) //月历的表头

{printf("\t%d年%d月\n",year,month);

printf("\t\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n") ;

printf("\t日\t一\t二\t三\t四\t五\t六\n");

}

int monthnum(int year,int month) //返回月份多少天

{

int leapyear();

int a1[13]={0,31,28,31,30,31,30,31,31,30,31,30,31};

int a2[13]={0,31,29,31,30,31,30,31,31,30,31,30,31};

if(leapyear(year)==1)

{

return(a2[month]);

}

else

{

return(a1[month]);

}

}

int leapyear(int year) //判断是否为闰年

{

if(year%4==0&&year%100!=0||year%4==0&&year%400==0)

{

return(1);

}

else

{

return(0);

}

}

int week(int year,int month,int day) //根据蔡勒公式计算星期几

{

int w ,c,y;

if(month==1)

{

month=13;

year=year-1;

}

if(month==2)

{

month=14;

year=year-1;

}

y=year%100;

c=(year/1000)\*10+(year/100%10);

if(y==0)

{

c=c-1;

}

w=y+floor(y/4)+floor(c/4)-2\*c+floor(26\*(month+1)/10.0)+day-1;

while(w<0)

{

w=w+7;

}

if(w%7==0)

{

return(7);

}

return(w%7);

}

int function3() //模块三：查询历史上某日为星期几

{

int year=0,month=1,day=1;

printf("-----查询历史上某日为星期几-----\n");

printf("\n");

do

{

if(year<0)

{

printf("\t系统提示：您输入了错误的年份请从新输入...\n");

}

printf("\t请输入要查询的年份：");

scanf("%d",&year);

printf("\n");

}

while(year<0);

do

{

if(month<1||month>12)

{

printf("\t系统提示：您输入了错误的月份请从新输入...\n");

}

printf("\t请输入%d年的第几月：",year);

scanf("%d",&month);

printf("\n");

}

while(month<1||month>12);

do

{

if(day<1||day>31)

{

printf("\t系统提示：您输入了错误的日期请从新输入...\n");

}

printf("\t请输入%d年%d月的第几天：",year,month);

scanf("%d",&day);

printf("\n");

}

while(day<1||day>31);

printf("\t您查询的%d年%d月%d号是星期%d\n\n",year,month,day,week(year,month,day));

}

void function4() //模块四：判断历史上某年是否为闰年

{

int year=0;

printf("-----判断历史上某年是否为闰年-----\n");

do

{

if(year<0)

{

printf("\t系统提示：您输入了错误的年份请从新输入...\n");

}

printf("\t请输入要查询的年份：");

scanf("%d",&year);

printf("\n");

}

while(year<0);

if(leapyear(year)==1)

{

printf("\t您查询的%d年是闰年\n\n",year);

}

else

{

printf("\t您查询的%d年不是闰年\n\n",year);

}

}

int function2() //模块二：搜素某年的年历或某月的日历模块

{

int year=0,month=1,i,j,spacenum,count;

printf("-----搜素某年的年历或某月的日历-----\n\n");

do

{

if(year<0)

{

printf("\t系统提示：您输入了错误的年份请从新输入...\n");

}

printf("\t请输入要查看的年份：");

scanf("%d",&year);

printf("\n");

}

while(year<0);

do

{

if(month<0||month>12)

{

printf("\t系统提示：您输入了错误的月份请从新输入...\n");

}

printf("\t请输入查看%d年的第几月,若想查看%d年年历请输入零：",year,year);

scanf("%d",&month);

printf("\n");

}

while(month<0||month>12);

if(month!=0)

{

searchhead(year,month) ;

spacenum=week(year,month,1);

if(spacenum!=7) //输出空格

{

for(i=1;i<=spacenum;i++)

{

printf("\t ");

}

}

count=spacenum;

for(i=1;i<=monthnum(year,month);i++)

{

printf("\t%d ",i);

count++;

if(count%7==0)

{

printf("\n");

}

}

}

if(month==0)

{

for(j=1;j<=12;j++)

{

searchhead(year,j) ;

spacenum=week(year,j,1);

if(spacenum!=7) //输出空格

{

for(i=1;i<=spacenum;i++)

{

printf("\t ");

}

}

count=spacenum;

for(i=1;i<=monthnum(year,j);i++)

{

printf("\t%d ",i);

count++;

if(count%7==0)

{

printf("\n");

}

}

printf("\n\n");

}

}

}

int nowyear() //获取系统的年份

{

time\_t rawtime;

struct tm \* timeinfo;

time ( &rawtime );

timeinfo = localtime ( &rawtime );

return( timeinfo->tm\_year+1900) ;

}

int nowmonth() //获取系统的月份

{

time\_t rawtime;

struct tm \* timeinfo;

time ( &rawtime );

timeinfo = localtime ( &rawtime );

return(timeinfo->tm\_mon+1 ) ;

}

int function1() //模块一：查看当年年历或当月月历

{int k,i,j,spacenum,count;

printf("-----查看当年年历或当月月历-----\n\n");

printf("\t您想查看今年的年历还是当月的月历,请输入1【年历】或0【月历】:");

scanf("%d",&k);

printf("\n");

if(k==0)

{

searchhead(nowyear(),nowmonth()) ;

spacenum=week(nowyear(),nowmonth(),1);

if(spacenum!=7) //输出空格

{

for(i=1;i<=spacenum;i++)

{

printf("\t ");

}

}

count=spacenum;

for(i=1;i<=monthnum(nowyear(),nowmonth());i++)

{

printf("\t%d ",i);

count++;

if(count%7==0)

{

printf("\n");

}

}

}

if(k==1)

{

for(j=1;j<=12;j++)

{

searchhead(nowyear(),j) ;

spacenum=week(nowyear(),j,1);

if(spacenum!=7) //输出空格

{

for(i=1;i<=spacenum;i++)

{

printf("\t ");

}

}

count=spacenum;

for(i=1;i<=monthnum(nowyear(),j);i++)

{

printf("\t%d ",i);

count++;

if(count%7==0)

{

printf("\n");

}

}

printf("\n\n");

}

}

}

void function5() //模块5：查询某一日期距今天的天数

{

int year\_start,month\_start,day\_start;

int year\_end,month\_end,day\_end;

int y2, m2, d2;

int y1, m1, d1;

//起始日期

printf("请输入要查询的起始日期（格式为XX年X月X日，如：2021年6月2日）：");

printf("请输入年：");

scanf("%d",&year\_start);

printf("\n");

printf("请输入月：");

scanf("%d",&month\_start);

printf("\n");

printf("请输入日：");

scanf("%d",&day\_start);

printf("\n");

//结束日期

printf("请输入要查询的结束日期(现在的日期)（格式为XX年X月X日，如：2021年6月2日）：");

printf("请输入今年：");

scanf("%d",&year\_end);

printf("\n");

printf("请输入今月：");

scanf("%d",&month\_end);

printf("\n");

printf("请输入今日：");

scanf("%d",&day\_end);

printf("\n");

//实现计算时间差

m1 = (month\_start + 9) % 12;

y1 = year\_start - m1/10;

d1 = 365\*y1 + y1/4 - y1/100 + y1/400 + (m1\*306 + 5)/10 + (day\_start - 1);

m2 = (month\_end + 9) % 12;

y2 = year\_end - m2/10;

d2 = 365\*y2 + y2/4 - y2/100 + y2/400 + (m2\*306 + 5)/10 + (day\_end - 1);

printf("%d年%d月%d日距今天有%d天\n", year\_start,month\_start,day\_start,d2 - d1);

}

main()

{

int select;

char ch;

while(1)

{

select=head();

if(select==1)

{

function1();

}

if(select==2)

{

function2();

}

if(select==3)

{

function3();

}

if(select==4)

{

function4();

}

if(select==5)

{

function5();

}

if(select==6)

{

break;

}

}

}