

```
#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. 搜索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;
    }
}

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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：搜索某年的年历或某月的日历模块
{
    int year=0,month=1,i,j,spacenum,count;
    printf("-----搜索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 ");
            }
        }
    }
}

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    }
    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);

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        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;
        }
    }
}
```