





#include <stdio.h>

int leap\_year(int n);

int first\_day(int n);

void print\_first(int month,int n);

void print\_second();

int print\_calendar(int month,int first,int flag);

void print\_day(int first,int n);

/\* main \*/

int main(void)

{

int n,flag,first;

scanf("%d",&n);

flag = leap\_year(n);

first = first\_day(n);

for(int month=1;month<=12;month++)

{

print\_first(month,n);

print\_second();

first = print\_calendar(month,first,flag);

}

return 0;

}

/\* 判断闰年 \*/

int leap\_year(int n)

{

if(!(n%4)&&(n%100)||!(n%400)) return 1;

return 0;

}

/\* 判断第一天是星期几 \*/

int first\_day(int n)

{

int day\_sum = 0;

for(int i=1900;i<n;i++)

{

if(leap\_year(i)){day\_sum += 366;}

else{day\_sum += 365;}

}

day\_sum %= 7;

day\_sum++; /\*星期天用 7 表示\*/

return day\_sum;

}

/\* 输出每月第一行 \*/

void print\_first(int month,int n)

{

switch(month){

case 1:printf(" January %d\n",n);break;

case 2:printf(" February %d\n",n);break;

case 3:printf(" March %d\n",n);break;

case 4:printf(" April %d\n",n);break;

case 5:printf(" May %d\n",n);break;

case 6:printf(" June %d\n",n);break;

case 7:printf(" July %d\n",n);break;

case 8:printf(" August %d\n",n);break;

case 9:printf(" September %d\n",n);break;

case 10:printf(" October %d\n",n);break;

case 11:printf(" November %d\n",n);break;

case 12:printf(" December %d\n",n);break;

}

}

/\* 输出每月第二行 \*/

void print\_second()

{

printf("Su Mo Tu We Th Fr Sa\n");

}

/\* 输出日历部分 \*/

int print\_calendar(int month,int first,int flag)

{

if(first != 7)

for(int i = 0;i < 3 \* first - 1;i++)

{printf(" ");}

if(month == 2){

if(flag) {print\_day(first,29);first += 29;}

else {print\_day(first,28);first += 28;}

}else{

switch(month){

case 1:case 3:case 5: case 7:case 8:case 10:case 12:

print\_day(first,31);first += 31;break;

case 4:case 6:case 9:case 11:

print\_day(first,30);first += 30;break;

}

}

first %= 7;

return first;

}

void print\_day(int first,int n)

{

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

if(first == 0){

printf("%2d",i);

first = 1;

}else if(first == 7){

printf("\n%2d",i);

first = 1;

}else{

printf(" %2d",i);

first++;

}

}

printf("\n\n");

}