#include<stdio.h>

#define TRUE 1

#define FALSE 0

int days\_in\_month[]={0,31,28,31,30,31,30,31,31,30,31,30,31};

char \*months[]=

{

" ",

"\n\n\nJanuary",

"\n\n\nFebruary",

"\n\n\nMarch",

"\n\n\nApril",

"\n\n\nMay",

"\n\n\nJune",

"\n\n\nJuly",

"\n\n\nAugust",

"\n\n\nSeptember",

"\n\n\nOctober",

"\n\n\nNovember",

"\n\n\nDecember"

};

int inputyear(void)

{

int year;

printf("Please enter a year (example: 2000) : ");

scanf("%d", &year);

return year;

}

int determinedaycode(int year)

{

int daycode;

int d1, d2, d3;

d1 = (year - 1.)/ 4.0;

d2 = (year - 1.)/ 100.;

d3 = (year - 1.)/ 400.;

daycode = (year + d1 - d2 + d3) %7;

return daycode;

}

int determineleapyear(int year)

{

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

{

days\_in\_month[2] = 29;

return TRUE;

}

else

{

days\_in\_month[2] = 28;

return FALSE;

}

}

void calendar(int year, int daycode)

{

int month, day;

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

{

printf("%s", months[month]);

printf("\n\nSun Mon Tue Wed Thu Fri Sat\n" );

// Correct the position for the first date

for ( day = 1; day <= 1 + daycode \* 5; day++ )

{

printf(" ");

}

// Print all the dates for one month

for ( day = 1; day <= days\_in\_month[month]; day++ )

{

printf("%2d", day );

// Is day before Sat? Else start next line Sun.

if ( ( day + daycode ) % 7 > 0 )

printf(" " );

else

printf("\n " );

}

// Set position for next month

daycode = ( daycode + days\_in\_month[month] ) % 7;

}

}

int main(void)

{

int year, daycode, leapyear;

year = inputyear();

daycode = determinedaycode(year);

determineleapyear(year);

calendar(year, daycode);

printf("\n");

}