#include <stdio.h>

int isLeapYear(int year) {

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

}

int daysInMonth(int year, int month) {

int days[] = {31, 28, 31, 30, 31, 30, 31, 31, 30, 31, 30, 31};

if (month == 2 && isLeapYear(year))

return 29;

else

return days[month - 1];

}

int dayOfWeek(int year, int month, int day) {

if (month < 3) {

year--;

month += 12;

}

int k = year % 100;

int j = year / 100;

int h = (day + ((26 \* (month + 1)) / 10) + k + (k / 4) + (j / 4) + (5 \* j)) % 7;

return h;

}

void printCalendar(int year) {

printf("\n%d year calendar:\n", year);

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

printf("\n%d year %d month\n", year, month);

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

int firstDay = dayOfWeek(year, month, 1);

int days = daysInMonth(year, month);

for (int i = 0; i < firstDay; i++)

printf(" ");

for (int day = 1; day <= days; day++) {

printf("%2d ", day);

if ((day + firstDay) % 7 == 0)

printf("\n");

}

printf("\n");

}

}

int main() {

int choice;

printf("Enter 1 to find the day of a specific date or 2 to print the calendar of a year: ");

scanf("%d", &choice);

if (choice == 1) {

int year, month, day;

printf("Please enter year, month and day:");

scanf("%d%d%d", &year, &month, &day);

int weekday = dayOfWeek(year, month, day);

switch (weekday) {

case 0:

printf("%d-%d-%d is Sunday.\n", year, month, day);

break;

case 1:

printf("%d-%d-%d is Monday.\n", year, month, day);

break;

case 2:

printf("%d-%d-%d is Tuesday.\n", year, month, day);

break;

case 3:

printf("%d-%d-%d is Wednesday.\n", year, month, day);

break;

case 4:

printf("%d-%d-%d is Thursday.\n", year, month, day);

break;

case 5:

printf("%d-%d-%d is Friday.\n", year, month, day);

break;

case 6:

printf("%d-%d-%d is Saturday.\n", year, month, day);

break;

}

} else if (choice == 2) {

int year;

printf("Please enter a year:");

scanf("%d", &year);

printCalendar(year);

} else {

printf("Invalid choice.\n");

}

return 0;

}