#include <stdio.h>

#include <time.h>

void printCalendar(int year, int month, int date) {

struct tm firstDay = {

.tm\_year = year - 1900,

.tm\_mon = month - 1,

.tm\_mday = 1

};

if (mktime(&firstDay) == -1) {

perror("Error creating time structure");

return;

}

int daysInMonth;

switch (month) {

case 2:

daysInMonth = ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0)) ? 29 : 28;

break;

case 4:

case 6:

case 9:

case 11:

daysInMonth = 30;

break;

default:

daysInMonth = 31;

break;

}

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

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

for (int i = 0; i < firstDay.tm\_wday; i++) {

printf(" ");

}

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

printf("%3d ", day);

if (++firstDay.tm\_wday > 6) {

firstDay.tm\_wday = 0;

printf("\n");

}

}

printf("\n");

struct tm specifiedDate = {

.tm\_year = year - 1900,

.tm\_mon = month - 1,

.tm\_mday = date

};

if (mktime(&specifiedDate) == -1) {

perror("Error creating time structure");

return;

}

switch (specifiedDate.tm\_wday) {

case 0:

printf("The date falls on a Sunday.\n");

break;

case 1:

printf("The date falls on a Monday.\n");

break;

case 2:

printf("The date falls on a Tuesday.\n");

break;

case 3:

printf("The date falls on a Wednesday.\n");

break;

case 4:

printf("The date falls on a Thursday.\n");

break;

case 5:

printf("The date falls on a Friday.\n");

break;

case 6:

printf("The date falls on a Saturday.\n");

break;

default:

printf("Invalid dayOfWeek.\n");

break;

}

}

int main() {

int year, month, date;

printf("Enter the year (e.g., 2023): ");

scanf("%d", &year);

printf("Enter the month (1-12): ");

scanf("%d", &month);

printf("Enter the date: ");

scanf("%d", &date);

if (month < 1 || month > 12) {

printf("Invalid month input.\n");

return 1;

}

printCalendar(year, month, date);

return 0;

}