import java.time.DayOfWeek;

import java.time.LocalDate;

import java.util.Scanner;

public class CalendarPlus {

private int year;

private int month;

public CalendarPlus(int year, int month) {

this.year = year;

this.month = month;

}

public void preMonth(){

if (month > 1){

month--;

}

else{

month = 12;

year--;

}

}

public void nextMonth(){

if (month < 12){

month++;

}

else{

month = 1;

year++;

}

}

public void preYear(){

year--;

}

public void nextYear(){

year++;

}

public void show() {

LocalDate Now = LocalDate.now();

int yearNow = Now.getYear();

int monthNow = Now.getMonthValue();

int dayNow = Now.getDayOfMonth();

LocalDate date1 = LocalDate.of(year, month, 1);

DayOfWeek val = date1.getDayOfWeek();

int valday = val.getValue();

System.out.println(" 一 二 三 四 五 六 日 月份：" + month + " 年份：" + year);

System.out.println(" -----------------------------------");

for (int i = 0; i < (valday - 1); i++) {

System.out.print(" ");

}

int count = 1;

while (count <= date1.lengthOfMonth()) {

if (year == yearNow && month == monthNow && count == dayNow)

System.out.printf(" \*%d", count);

else

System.out.printf("%5d", count);

count++;

valday++;

if (valday > 7) {

valday -= 7;

System.out.println("");

}

}

}

public static int VerifyYear(){

Scanner reader = new Scanner(System.in);

int year = 2023;

do{

while(!reader.hasNextInt()){

System.out.println("请输入有效年份！(请输入整数)");

reader.next();

}

year = reader.nextInt();

if (year < 1600){

System.out.println("请输入有效年份！(1600年或以后)");

}

} while(year < 1600);

return year;

}

public static int VerifyMonth(){

Scanner reader = new Scanner(System.in);

int month = 1;

do{

while(!reader.hasNextInt()){

System.out.println("请输入有效月份！(请输入整数)");

reader.next();

}

month = reader.nextInt();

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

System.out.println("请输入有效月份！(1-12)");

}

} while(month < 1 || month > 12);

return month;

}

public static void Mode2(CalendarPlus calendar){

System.out.println("输入<显示上个月的日历，输入>显示下个月的日历，输入x退出");

Scanner reader = new Scanner(System.in);

String x = reader.next();

do{

if (x.equals("<")){

calendar.preMonth();

calendar.show();

System.out.println("");

}

else if (x.equals(">")){

calendar.nextMonth();

calendar.show();

System.out.println("");

}

else if (x.equals("x")){

break;

}

else{

System.out.println("错误的输入！");

}

System.out.println("输入<显示上个月的日历，输入>显示下个月的日历，输入x退出");

x = reader.next();

} while (!x.equals("x"));

}

public static void Mode3(CalendarPlus calendar){

while (true){

System.out.println("输入<显示上个月的日历，输入>显示下个月的日历，输入x退出");

Scanner reader = new Scanner(System.in);

String x = reader.next();

if (x.equals("<")){

calendar.year--;

calendar.month = 1;

for (int i = 0; i < 12; i++){

calendar.show();

System.out.println("");

calendar.month++;

}

calendar.month = 1;

System.out.println("");

}

else if (x.equals(">")){

calendar.year++;

calendar.month = 1;

for (int i = 0; i < 12; i++){

calendar.show();

System.out.println("");

calendar.month++;

}

calendar.month = 1;

System.out.println("");

}

else if (x.equals("x")){

break;

}

else{

System.out.println("错误的输入！");

}

}

}

public static CalendarPlus CreateNewCalander(){

int year, month;

System.out.print("请输入年份: ");

year = VerifyYear();

System.out.print("请输入月份: ");

month = VerifyMonth();

CalendarPlus calendar = new CalendarPlus(year, month);

return calendar;

}

public static void PrintMenu(){

System.out.println("请输入日历模式：");

System.out.println("1. 输入年、月，显示指定日历页");

System.out.println("2. 对当前月份日历页进行操作");

System.out.println("3. 显示当前年份所有日历页并操作");

System.out.println("4. 退出程序");

}

public static void main(String[] args) {

CalendarPlus NowCalendar = new CalendarPlus(LocalDate.now().getYear(), LocalDate.now().getMonthValue());

System.out.println("当前月份日历表：");

NowCalendar.show();

System.out.println("");

System.out.println("");

PrintMenu();

CalendarPlus calendar = NowCalendar;

Scanner reader = new Scanner(System.in);

while (reader.hasNext()){

if (!reader.hasNextInt()){

System.out.println("请输入正确的模式序号！");

reader.next();

continue;

}

int mode = reader.nextInt();

if (mode == 1){

calendar = CreateNewCalander();

calendar.show();

System.out.println("");

PrintMenu();

}

else if (mode == 2){

System.out.println("当前月份日历页：");

calendar.show();

System.out.println("");

Mode2(calendar);

PrintMenu();

}

else if (mode == 3){

calendar.month = 1;

System.out.println("当前年份日历页：");

for (int i = 0; i < 12; i++){

calendar.show();

System.out.println("");

calendar.month++;

}

Mode3(calendar);

PrintMenu();

}

else if (mode == 4){

break;

}

else{

System.out.println("请输入正确的模式序号！");

}

}

reader.close();

}

}











