// comsc 200

// main.cpp

// lab

// completed

// Created by Jeff on 10/10/16.

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//

#include <iostream>

#include <string>

#include <cstdlib>

using namespace std;

const string months[12] = {

"January", "February", "March", "April", "May", "June",

"July", "August", "September", "October", "November", "December"};

const int monthEnds[12] = {31, 28, 31, 30, 31, 30, 31, 31, 30, 31, 30, 31};

//const string s="Input is not a valid value for the month.\n";

//const string u="Input is not a valid value for the day.\n";

class Date{

private:

int month, day, year;

public:

class InvalidMonth{

private:

int month;

public:

InvalidMonth(int m){month =m;};

int getMonth()const{return month;};

};

class InvalidDay{

private:

int day;

public:

InvalidDay(int d){day =d;};

int getDay()const{return day;};

};

Date();

Date(int,int,int);

void setMonth(int m){

if(m<0 || m>12){

throw InvalidMonth(m);

}

else

month=m;

}

void setDay(int d){

if(d<0 || d> monthEnds[month-1]){

throw InvalidDay(d);

}

else

day=d;

}

void setYear(int x){year=x;};

int getMonth(){return month;};

int getDay(){return day;};

int getYear(){return year;};

void showDate1();

void showDate2();

void showDate3();};

Date::Date():month(1), day(0), year(0){}

/\*

Date::Date(int m, int d, int y): month(m), day(d), year(y){

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

throw InvalidMonth(m);

}

else if(d<1 || d>monthEnds[m-1]){

// cout << d << " is not a valid value for the day.\n";

// exit(1);}}

throw InvalidDay(d);}

else

day = d;

}

\*/

void Date::showDate1(){cout<<month<<"/"<<day<<"/"<<year;}

void Date::showDate2(){

if(month==0){return;}

cout<<months[getMonth()]<<" "<<getDay()<<", "<<getYear();}

void Date::showDate3(){

if(month==0){return;}

cout<<getDay()<<" "<<getMonth()<<" "<<((year<0)?-year:year)

<<((year<0)?" B.C.":"");}

int main(){

//Date today(10, 12, 2015);

// cout<<"today in Format 1: ";

//today.showDate1();

// today.setMonth(10);

// today.setDay(12);

//today.setYear(2015);

//cout<<"\ntoday in Format 2: ";

//today.showDate2();

//cout<<"\ntoday in format 3: ";

//today.showDate3();

int month, day, year;

Date newDay;

bool stay=true;

while(stay){

cout << "\n\nEnter date as in 10 12 2015: ";

cin >> month >> day >> year;

try{

newDay.setMonth(month);

newDay.setDay(day);

newDay.setYear(year);

}catch(Date::InvalidMonth e){

cout<< e.getMonth()<<" is an invalid value for the Date's month. " <<endl;

}catch(Date::InvalidDay e){

cout<< e.getDay()<<" is an invalid value for the Date's day." <<endl;

}

cout << "\nDate form 1: ";

newDay.showDate1();

cout << "\nDate form 2: ";

newDay.showDate2();

cout << "\nDate form 3: ";

newDay.showDate3();

if(newDay.getYear()==2050){stay=false;}

}

return 0;

}

