Name: Jing Ma

Tuesday Labs

//Part 1: Length of month

/\*

int nyear(int year){

if (year%4==0){

return 366;

}

else{

return 365;

}

}

int nmonth(int const month,int const year){

if(month==1||month==3||month==5||month==7||month==8||month==10||month==12){

return 31;

}

else if(nyear(year)==366&&month==2){

return 29;

}

else if(nyear(year)==365&&month==2){

return 28;

}

else{

return 30;

}

}

void length\_of\_month(){

cout<<"Enter year";

int const year = read\_int();

if(year<2000||year>2099){

cout<<"Entered year is out of range";

}

else{

cout<<"Enter month";

int const month = read\_int();

cout<<nmonth(month,year)<<endl;

}

}

int main(){

length\_of\_month();

return 0;

}

\*/

//Part 2: Day of the year

/\*

int n\_year(int year){

if (year%4==0){

return 366;

}

else{

return 365;

}

}

int n\_month(int const month,int const year){

if(month==1||month==3||month==5||month==7||month==8||month==10||month==12){

return 31;

}

else if(n\_year(year)==366&&month==2){

return 29;

}

else if(n\_year(year)==365&&month==2){

return 28;

}

else{

return 30;

}

}

int n\_day(int day, int month, int year){

int total\_days = day;

if(month>1){

total\_days = total\_days + n\_month(month-1, year);

}

month = month -1;

return total\_days;

}

void day\_of\_year(){

cout<<"Enter year ";

int const year = read\_int();

if(year<2000||year>2099){

cout<<"Entered year is out of range";

}

else{

cout<<"Enter month ";

int const month = read\_int();

cout<<"Enter day of month ";

int const day = read\_int();

cout<<n\_day(day,month,year)<<endl;

}

}

int main(){

day\_of\_year();

}

\*/

//Part 3: Day of the century

/\*

int n\_year(int year){

if (year%4==0){

return 366;

}

else{

return 365;

}

}

int n\_month(int const month,int const year){

if(month==1||month==3||month==5||month==7||month==8||month==10||month==12){

return 31;

}

else if(n\_year(year)==366&&month==2){

return 29;

}

else if(n\_year(year)==365&&month==2){

return 28;

}

else{

return 30;

}

}

int n\_day(int day, int month, int year){

int total\_days = day;

if(month>1){

total\_days = total\_days + n\_month(month-1, year);

}

month = month -1;

return total\_days;

}

int n\_century(int day, int month, int year){

int total\_days\_cen;

int total\_days = day;

while(month>1)

{

total\_days = total\_days + n\_month(month-1,year);

month=month-1;

}

while(year>=0)

{

if(year%100==0)

{break;}

total\_days = total\_days + n\_year(year-1);

year=year-1;

}

return total\_days;

}

void day\_of\_century(){

cout<<"Enter year ";

int const year = read\_int();

if(year<2000||year>2099){

cout<<"Entered year is out of range";

}

else{

cout<<"Enter month ";

int const month = read\_int();

cout<<"Enter day of month ";

int const day = read\_int();

cout<<n\_century(day,month,year)<<endl;

}

}

int main(){

day\_of\_century();

}

\*/

//Part 4: Day of forever

/\*

int n\_year(int year){

if(year>0){

if((year%400==0)||(year%4==0&&year%100!=0)){

return 366;

}

else{

return 365;

}

}

else{

return 0;

}

}

int n\_month(int const month,int const year){

if(month==1||month==3||month==5||month==7||month==8||month==10||month==12){

return 31;

}

else if(n\_year(year)==366&&month==2){

return 29;

}

else if(n\_year(year)==365&&month==2){

return 28;

}

else{

return 30;

}

}

int n\_day(int day, int month, int year){

int total\_days = day;

if(month>1){

total\_days = total\_days + n\_month(month-1, year);

//return n\_day(day, month-1, year);

//return total\_days;

}

month = month -1;

return total\_days;

}

int n\_century(int day, int month, int year){

int total\_days = day;

while(month>1)

{

total\_days = total\_days + n\_month(month-1,year);

month=month-1;

}

while(year>=0)

{

if(year%100==0)

{break;}

total\_days = total\_days + n\_year(year-1);

year=year-1;

}

return total\_days;

}

int n\_forever(int day, int month, int year){

int total\_days=day;

while(month>1)

{

total\_days = total\_days + n\_month(month-1,year);

month=month-1;

}

while(year>=0)

{

total\_days = total\_days + n\_year(year-1);

year=year-1;

}

return total\_days;

}

void forever(){

cout<<"Enter year ";

int const year = read\_int();

cout<<"Enter month ";

int const month = read\_int();

cout<<"Enter day of month ";

int const day = read\_int();

cout<<n\_forever(day,month,year)<<endl;

}

int main(){

forever();

}

\*/

//Part 5: Day of week

/\*

int n\_year(int year){

if(year>0){

if((year%400==0)||(year%4==0&&year%100!=0)){

return 366;

}

else{

return 365;

}

}

else{

return 0;

}

}

int n\_month(int const month,int const year){

if(month==1||month==3||month==5||month==7||month==8||month==10||month==12){

return 31;

}

else if(n\_year(year)==366&&month==2){

return 29;

}

else if(n\_year(year)==365&&month==2){

return 28;

}

else{

return 30;

}

}

int n\_day(int day, int month, int year){

int total\_days = day;

if(month>1){

total\_days = total\_days + n\_month(month-1, year);

//return n\_day(day, month-1, year);

//return total\_days;

}

month = month -1;

return total\_days;

}

int n\_century(int day, int month, int year){

int total\_days = day;

while(month>1)

{

total\_days = total\_days + n\_month(month-1,year);

month=month-1;

}

while(year>=0)

{

if(year%100==0)

{break;}

total\_days = total\_days + n\_year(year-1);

year=year-1;

}

return total\_days;

}

int n\_forever(int day, int month, int year){

int total\_days=day;

while(month>1)

{

total\_days = total\_days + n\_month(month-1,year);

month=month-1;

}

while(year>=0)

{

total\_days = total\_days + n\_year(year-1);

year=year-1;

}

return total\_days;

}

string n\_week(const int day,const int month, const int year) {

string weeks[]={"Friday","Saturday","Sunday","Monday","Tuesday","Wednesday","Thursday"};

string weekday= weeks[n\_century(day,month,year)%7];

return (weekday);

}

void day\_of\_week(){

cout<<"Enter year ";

int const year = read\_int();

cout<<"Enter month ";

int const month = read\_int();

cout<<"Enter day of month ";

int const day = read\_int();

cout<<n\_week(day,month,year)<<endl;

}

int main(){

day\_of\_week();

}

\*/

//Part 6: A calender for a month

/\*

int n\_year(int year){

if(year>0){

if((year%400==0)||(year%4==0&&year%100!=0)){

return 366;

}

else{

return 365;

}

}

else{

return 0;

}

}

int n\_month(int const month,int const year){

if(month==1||month==3||month==5||month==7||month==8||month==10||month==12){

return 31;

}

else if(n\_year(year)==366&&month==2){

return 29;

}

else if(n\_year(year)==365&&month==2){

return 28;

}

else{

return 30;

}

}

int n\_day(int day, int month, int year){

int total\_days = day;

if(month>1){

total\_days = total\_days + n\_month(month-1, year);

//return n\_day(day, month-1, year);

//return total\_days;

}

month = month -1;

return total\_days;

}

int n\_century(int day, int month, int year){

int total\_days = day;

while(month>1)

{

total\_days = total\_days + n\_month(month-1,year);

month=month-1;

}

while(year>=0)

{

if(year%100==0)

{break;}

total\_days = total\_days + n\_year(year-1);

year=year-1;

}

return total\_days;

}

int n\_forever(int day, int month, int year){

int total\_days=day;

while(month>1)

{

total\_days = total\_days + n\_month(month-1,year);

month=month-1;

}

while(year>=0)

{

total\_days = total\_days + n\_year(year-1);

year=year-1;

}

return total\_days;

}

string n\_week(const int day,const int month, const int year) {

string weeks[]={"Friday","Saturday","Sunday","Monday","Tuesday","Wednesday","Thursday"};

string weekday= weeks[n\_century(day,month,year)%7];

return (weekday);

}

string months( const int month)

{

string month\_Name[]={"January","February","March","April","May","June","July","August","September","October","Novemember","December"};

return (month\_Name[month-1]);

}

void calender(int const year, int const month){

int const day = 1;

int space, i, j, sum, daycount;

sum = n\_century(day, month, year);

space = (sum%7)+4;

daycount= n\_month(month,year);

cout<<" "<<months(month)<<" "<<year<<" "<<endl;

cout<<" Sun Sat Mon Tue Wed Thu Fri "<<endl;

for(i=0;i<space%7;i=i+1)

{ cout<<" ";

}

for(i=1,j=space+1;i<=daycount;i=i+1,j=j+1)

{

if(i<10)

{cout<<" "<<i;}

else if(i>=10)

{cout<<" "<<i;}

if(j%7==0)

cout<<endl;

}

cout<<endl;

}

void draw\_calender(){

cout<<"Enter the year: ";

const int year = read\_int();

cout<<"Enter the month : ";

const int month = read\_int();

new\_line();

calender(year,month);

}

int main(){

draw\_calender();

}

\*/

A close up of text on a black background

Description automatically generated

//Part 7: A solid product

**int** **n\_year**(**int** year){

**if**(year>0){

**if**((year%400==0)||(year%4==0&&year%100!=0)){

**return** 366;

}

**else**{

**return** 365;

}

}

**else**{

**return** 0;

}

}

**int** **n\_month**(**int** **const** month,**int** **const** year){

**if**(month==1||month==3||month==5||month==7||month==8||month==10||month==12){

**return** 31;

}

**else** **if**(**n\_year**(year)==366&&month==2){

**return** 29;

}

**else** **if**(**n\_year**(year)==365&&month==2){

**return** 28;

}

**else**{

**return** 30;

}

}

**int** **n\_day**(**int** day, **int** month, **int** year){

**int** total\_days = day;

**if**(month>1){

total\_days = total\_days + **n\_month**(month-1, year);

//return n\_day(day, month-1, year);

//return total\_days;

}

month = month -1;

**return** total\_days;

}

**int** **n\_century**(**int** day, **int** month, **int** year){

**int** total\_days = day;

**while**(month>1)

{

total\_days = total\_days + **n\_month**(month-1,year);

month=month-1;

}

**while**(year>=0)

{

**if**(year%100==0)

{**break**;}

total\_days = total\_days + **n\_year**(year-1);

year=year-1;

}

**return** total\_days;

}

**int** **n\_forever**(**int** day, **int** month, **int** year){

**int** total\_days=day;

**while**(month>1)

{

total\_days = total\_days + **n\_month**(month-1,year);

month=month-1;

}

**while**(year>=0)

{

total\_days = total\_days + **n\_year**(year-1);

year=year-1;

}

**return** total\_days;

}

**string** **n\_week**(**const** **int** day,**const** **int** month, **const** **int** year) {

**string** weeks[]={"Friday","Saturday","Sunday","Monday","Tuesday","Wednesday","Thursday"};

**string** weekday= weeks[**n\_century**(day,month,year)%7];

**return** (weekday);

}

**string** **months**( **const** **int** month)

{

**string** month\_Name[]={"January","February","March","April","May","June","July","August","September","October","Novemember","December"};

**return** (month\_Name[month-1]);

}

**void** **calender**(**int** **const** year, **int** **const** month){

**int** **const** day = 1;

**int** space, i, j, sum, daycount;

sum = **n\_century**(day, month, year);

space = (sum%7)+4;

daycount= **n\_month**(month,year);

cout<<" "<<**months**(month)<<" "<<year<<" "<<**endl**;

cout<<" -------------------------- "<<**endl**;

cout<<" Mo Tu We Th Fr Sa Su "<<**endl**;

cout<<" -------------------------- "<<**endl**;

**for**(i=0;i<space%7;i=i+1)

{ cout<<" ";

}

**for**(i=1,j=space+1;i<=daycount;i=i+1,j=j+1)

{

**if**(i<10)

{cout<<" "<<i;}

**else** **if**(i>=10)

{cout<<" "<<i;}

**if**(j%7==0)

cout<<**endl**;

}

cout<<" -------------------------- "<<**endl**;

}

**void** **draw\_calender**(){

cout<<"Enter the year: ";

**const** **int** year = **read\_int**();

cout<<"Enter the month : ";

**const** **int** month = **read\_int**();

**new\_line**();

**calender**(year,month);

}

**int** **main**(){

**draw\_calender**();

}

Script started on Mon Mar 2 17:33:30 2020

jxm1956@rabbit:~ % a.out

Enter year 2000

Enter month 1

Enter day of month 1

730120

jxm1956@rabbit:~ % a.out

Enter year 1900

Enter month 1

Enter day of month 1

693596

jxm1956@rabbit:~ % a.out

Enter year 1776

Enter month 7

Enter day of month 4

648491

jxm1956@rabbit:~ % a.out

Enter year 2016

Enter month 10

Enter day of month 4

736241

jxm1956@rabbit:~ % a.out

Enter year 2016

Enter month 10

Enter day of month 10

736247

jxm1956@rabbit:~ % a.out

Enter year 2737

Enter month 11

Enter day of month 27

999634

jxm1956@rabbit:~ % 20[K[Ka.out

Enter year 10

Enter month 1

Enter day of month 1

3288

jxm1956@rabbit:~ % exit

exit

Script done on Mon Mar 2 17:35:00 2020

Script started on Mon Mar 2 17:36:57 2020

jxm1956@rabbit:~ % a.out

Enter the year: 2018

Enter the month : 10

October 2018

--------------------------

Mo Tu We Th Fr Sa Su

--------------------------

1 2 3 4 5 6 7

8 9 10 11 12 13 14

15 16 17 18 19 20 21

22 23 24 25 26 27 28

29 30 31

--------------------------

jxm1956@rabbit:~ % cal -d 2018-10

October 2018

Su Mo Tu We Th Fr Sa

1 2 3 4 5 6

7 8 9 10 11 12 13

14 15 16 17 18 19 20

21 22 23 24 25 26 27

28 29 30 31

jxm1956@rabbit:~ % exit

exit

Script done on Mon Mar 2 17:37:17 2020