#include <stdio.h>

#include<stdlib.h>

#include <string.h>

char\* months[] = {"Mar","Apr","May","Jun","Jul","Aug","Sep","Oct","Nov","Dec","Jan","Feb"};

char\* days[]= { "sunday","monday", "tuesday", "wednesday", "thursday", "friday", "saturday" };

int Day(int date,int month,int year);

main()

{

//Using Zellers Rule f = k + [(13\*m-1)/5] + D + [D/4] + [C/4] - 2\*C

//Ex for 29 Jan 2064

//k---day of the month as 29

//m-month number as March=1 ..Feb=12,so here it is 11

//D--last two digits of year from above it is 64

//C--first two digits of year from above it is 20

int k,m,year,i,flag=0,dates;

char str[3],day[100];

printf("Enter first 3 letters of month of the year ex:-for January enter Jan\n");

scanf("%s",str);

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

{

if(!strcmp(str,months[i]))

{

m=i+1;

flag=1;

break;

}

}

if(flag==0)

{

printf("Invalid Month\n");

exit(0);

}

printf("Enter year\n");

scanf("%d",&year);

if(m==1 || m==3 || m==5 || m==6 || m==8 || m==10 || m==11)

{

dates=31;

}

if(m==2 || m==4 || m==7 || m==9)

{

dates=30;

}

if(m==12)

{

if(year%400==0)

{

dates=29;

}

else if(year%100==0)

{

dates=28;

}

else if(year%4==0)

{

dates=29;

}

else

{

dates=28;

}

}

printf("-Sunday--Monday--Tuesday--Wednesday--Thursday--Friday--Saturday-\n");

for(i=1;i<=dates;i++)

{

int finalday=Day(i,m,year);

if(finalday==0)

printf("%4d",i);

if(finalday==1)

{

if(i!=1)

printf("%8d",i);

else

printf("%12d",i);

}

if(finalday==2)

{

if(i!=1)

printf("%8d",i);

else

printf("%20d",i);

}

if(finalday==3)

{

if(i!=1)

printf("%9d",i);

else

printf("%29d",i);

}

if(finalday==4)

{

if(i!=1)

printf("%11d",i);

else

printf("%40d",i);

}

if(finalday==5)

{

if(i!=1)

printf("%10d",i);

else

printf("%50d",i);

}

if(finalday==6)

{

if(i!=1)

printf("%8d\n",i);

else

printf("%58d\n",i);

}

}

printf("\n");

}

int Day(int k,int m,int year)

{

int D,C,i,f,finalday,flag=0;

char day[100];

if(k<=0||k>31)

{

printf("Invalid Date\n");

exit(0);

}

if(m==11||m==12)

{

year=year-1;

}

D=year%100;

C=year/100;

f = (k+(((13\*m)-1)/5)+D+(D/4)+(C/4))-(2\*C);

if(f>=0)

{

finalday=f%7;

}

else

{

finalday=((f%7)+7)%7;

}

return(finalday);

}