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#include<stdio.h>
#include<stdlib.h>

int isLeapYear(int y){
    if ((y % 4 == 0 && y % 100 != 0) || (y % 400 == 0))
        return 1;
    else
        return 0;
}

void printDate(int d){
    char ch[3];
    ch[0] = (d / 10) + '0';
    ch[1] = (d % 10) + '0';
    ch[2] = '\0';
    printf("%s", ch);
}

void printYear(int y){
    char ch[5];
    for(int i = 3; i >= 0; i--){
        ch[i] = (y % 10) + '0';
        y /= 10;
    }
    ch[4]='\0';
    printf("%s", ch);
}

void printFormattedDate(int d, int m, int y){
    printDate(d);
    printf(".");
    printDate(m);
    printf(".");
    printYear(y);
}

int main(){
    int y, k, m, d;
    scanf("%d\n%d", &y, &k);
    if (k >= 367 || k <= 0){ // Safety against illegal dates
        printf("-1");
        return 0;
    }
    // How many days do each of the months have?
    int nl[12] = {31,28,31,30,31,30,31,31,30,31,30,31};
    if(isLeapYear(y))
        nl[1] = 29;

    for(int i = 0; i < 12; i++){
        if(k <= nl[i]){ // Done - found the month
            d = k;
            m = i+1;
            k = 0;
            break;
        }else{
            k -= nl[i]; // Move to the next month
        }
    }
    if(k > 0){ // Safety against a case when k = 366 in a non-leap year
        printf("-1");
    }else{
        printf("%d\n%d\n",d,m);
        printFormattedDate(d,m,y);
    }
    return 0;
}
```