## Contents



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%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% ENGR 132
% Program Description
%       ...
%
% Assigment Information
%   Assignment:     PS 03, Problem 2
%   Author:         Yuefan Fu, loginfu194
%       Contributor:    Name, login@purdue [repeat for each]
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

## INITIALIZATION

```
allData=importdata('Data_westlafayette_sun_2018.csv',',',8);
```

## CALCULATIONS

```
%Spring 2018 from day 8 to day 118;
springIndex=8;
totalDarkSpring=0;
riseDuringSpring=0;
fullLightSpring=0;
flag=1;

while(springIndex<=118)
    if((allData.data(springIndex,4)==3||allData.data(springIndex,4)==5)&&allData.data(spri
ngIndex,2)>720)
        totalDarkSpring=totalDarkSpring+1;

        lastDark=springIndex;
    end

    if((allData.data(springIndex,4)==3||allData.data(springIndex,4)==5)&&allData.data(spri
ngIndex,2)<720&&allData.data(springIndex,2)>700)
       riseDuringSpring=riseDuringSpring+1;

    end
```

```
    if((allData.data(springIndex,4)==3||allData.data(springIndex,4)==5)&&allData.data(spri
ngIndex,2)<700)
        fullLightSpring=fullLightSpring+1;
        if(flag)
            firstLight=springIndex;
        end
        flag=0;
    end
    springIndex=springIndex+1;
end

fallIndex=232;
totalDarkFall=0;
riseDuringFall=0;
fullLightFall=0;
lastLight=NaN;
flag2=1;
while(fallIndex<=341)
    if((allData.data(fallIndex,4)==2||allData.data(fallIndex,4)==4||allData.data(fallIndex
,4)==6)&&allData.data(fallIndex,2)>720)
        totalDarkFall=totalDarkFall+1;
        if(flag2)
            firstDark=fallIndex;
        end
        flag2=0;
    end

    if((allData.data(fallIndex,4)==2||allData.data(fallIndex,4)==4||allData.data(fallIndex
,4)==6)&&allData.data(fallIndex,2)<720&&allData.data(fallIndex,2)>700)
       riseDuringFall=riseDuringFall+1;

    end

    if((allData.data(fallIndex,4)==2||allData.data(fallIndex,4)==4||allData.data(fallIndex
,4)==6)&&allData.data(fallIndex,2)<700)
        fullLightFall=fullLightFall+1;
        lastLight=fallIndex;
    end
    fallIndex=fallIndex+1;
end
```

## FORMATTED TEXT DISPLAYS

```
fprintf('Spring 2018:\nYou will walk %d days in darkness, %d days in partial daylight,\nan
d %d days in full daylight. Your last walk in full darkness is\non DOY %d and your first w
alk in full daylight is on DOY %d.\n',totalDarkSpring,riseDuringSpring,fullLightSpring, la
stDark,firstLight);


fprintf('\nFall 2018:\nYou will walk %d days in full daylight, %d days in partial daylight
,\nand %d days in darkness. Your last walk in full daylight is\non DOY %d and your first w
alk in full darkness is on DOY %d.\n',totalDarkFall,riseDuringFall,fullLightFall, lastLigh
t,firstDark);
```

```
Spring 2018:
You will walk 24 days in darkness, 6 days in partial daylight,
```

```
and 2 days in full daylight. Your last walk in full darkness is
on DOY 95 and your first walk in full daylight is on DOY 114.

Fall 2018:
You will walk 40 days in full daylight, 8 days in partial daylight,
and 0 days in darkness. Your last walk in full daylight is
on DOY NaN and your first walk in full darkness is on DOY 250.
```

## ACADEMIC INTEGRITY STATEMENT

I/We have not used source code obtained from any other unauthorized source, either modified or unmodified. Neither have I/we provided access to my/our code to another. The project I/we am/are submitting is my/our own original work.

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