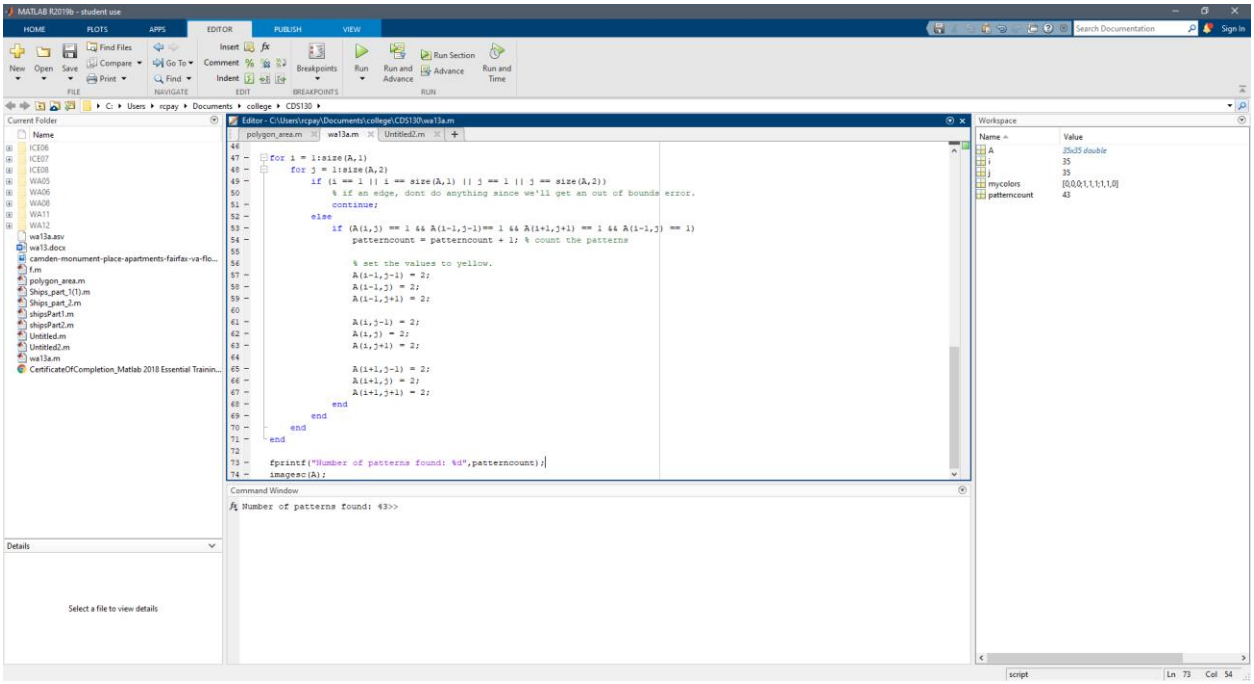
Riley Payung

CDS 130

11/25/2019

WA 13

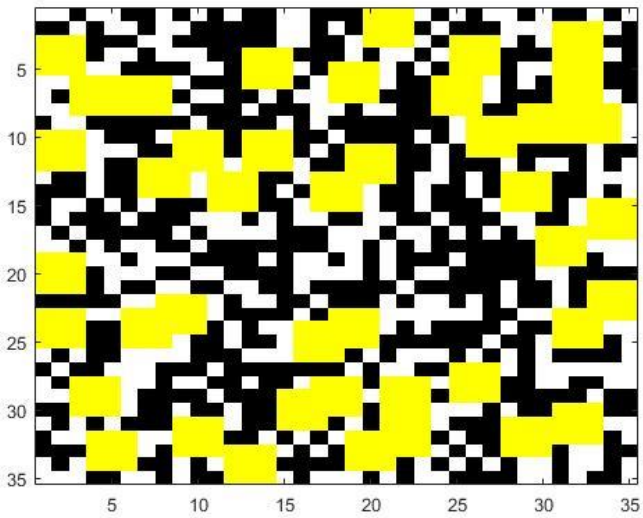
Part 1



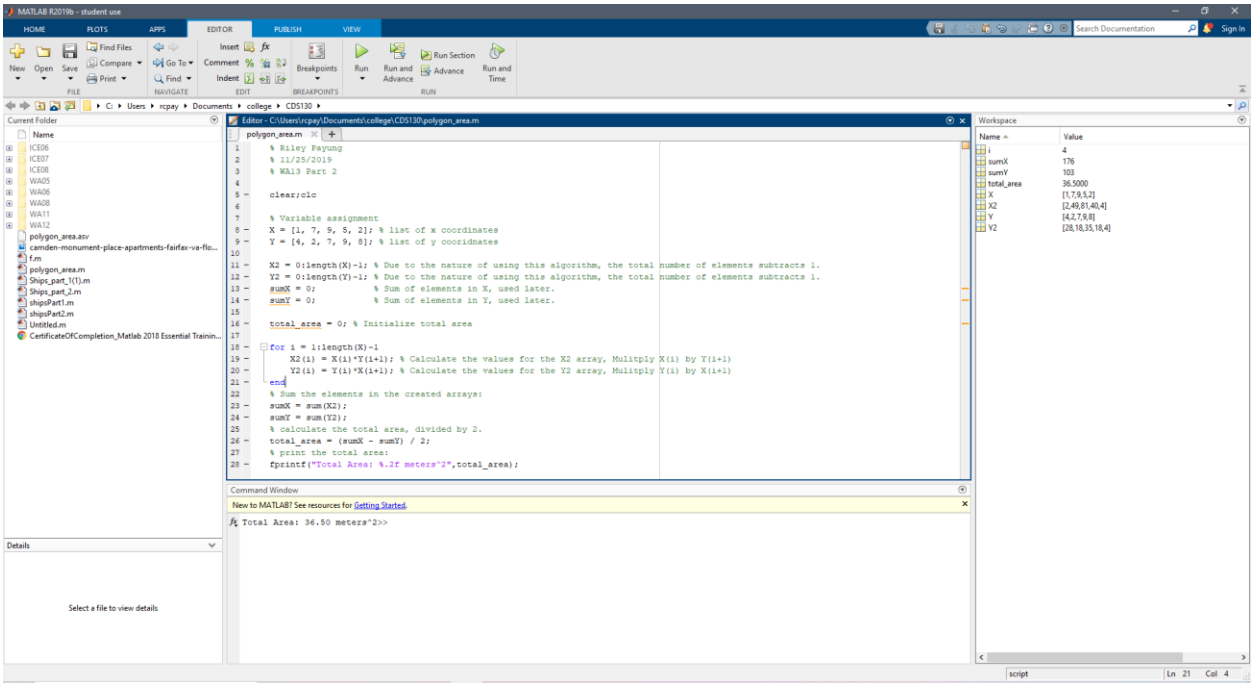
```
for i = 1:size(A,1)
    for j = 1:size(A,2)
        if (i == 1 || i == size(A,1) || j == 1 || j == size(A,2))
            % if an edge, dont do anything since we'll get an out of bounds error.
            continue;
        else
            if (A(i,j) == 1 && A(i-1,j-1)== 1 && A(i+1,j+1) == 1 && A(i-1,j) == 1)
                patterncount = patterncount + 1; % count the patterns

                % set the values to yellow.
                A(i-1,j-1) = 2;
                A(i-1,j) = 2;
                A(i-1,j+1) = 2;

                A(i,j-1) = 2;
                A(i,j) = 2;
                A(i,j+1) = 2;

                A(i+1,j-1) = 2;
                A(i+1,j) = 2;
                A(i+1,j+1) = 2;
            end
        end
    end
end

fprintf("Number of patterns found: %d",patterncount);
imagesc(A);
```

```
Number of patterns found: 43>>
```

Number of patterns found: 43.



Part 2


MATLAB R2019b - student use
HOME
PLOTS
APPS
EDITOR
PUBLISH
VIEW
Search Documentation
Sign In
New
Open
Save
Find Files
Compare
Print
Go To
Find
Insert
Comment
Indent
Breakpoints
Run
Run and Advance
Run Section
Advance
Run and Time
NAVIGATE
EDIT
BREAKPOINTS
RUN
C: ▸ Users ▸ rcpay ▸ Documents ▸ college ▸ CDS130 ▸
Current Folder
Name
ICE06
ICE07
ICE08
WA05
WA06
WA08
WA11
WA12
polygon_area.asv
camden-monument-place-apartments-fairfax-va-flo...
f.m
polygon_area.m
Ships_part_1(1).m
Ships_part_2.m
shipsPart1.m
shipsPart2.m
Untitled.m
CertificateOfCompletion_Matlab 2018 Essential Trainin...
Details
Select a file to view details
Editor - C:\Users\rcpay\Documents\college\CDS130\polygon_area.m
polygon_area.m
% Riley Fayung
% 11/25/2019
% WA13 Part 2
clear;clc
% Variable assignment
X = [1, 7, 9, 5, 2]; % list of x coordinates
Y = [4, 2, 7, 9, 8]; % list of y coordinates
X2 = 0:length(X)-1; % Due to the nature of using this algorithm, the total number of elements subtracts 1.
Y2 = 0:length(Y)-1; % Due to the nature of using this algorithm, the total number of elements subtracts 1.
sumX = 0; % Sum of elements in X, used later.
sumY = 0; % Sum of elements in Y, used later.
total_area = 0; % Initialize total area
for i = 1:length(X)-1
X2(i) = X(i)*Y(i+1); % Calculate the values for the X2 array, Mulitply X(i) by Y(i+1)
Y2(i) = Y(i)*X(i+1); % Calculate the values for the Y2 array, Mulitply Y(i) by X(i+1)
end
% Sum the elements in the created arrays:
sumX = sum(X2);
sumY = sum(Y2);
% calculate the total area, divided by 2.
total_area = (sumX - sumY) / 2;
% print the total area:
fprintf("Total Area: %.2f meters^2",total_area);
Command Window
New to MATLAB? See resources for Getting Started.
Total Area: 36.50 meters^2>>
Workspace
Name
Value
i
4
sumX
176
sumY
103
total_area
36.5000
X
[1,7,9,5,2]
X2
[2,49,81,40,4]
Y
[4,2,7,9,8]
Y2
[28,18,35,18,4]
script
Ln 21
Col 4