



Computer Lab 5 – Week 6

Part 1

Write a small program to input a number from the command line using the **input** function. Then, display to the user whether the number is 'odd' or 'even'. You may wish to make use of the **mod** or **rem** functions to calculate the remainder after division to help you make your decision.

You should start by creating a structure plan to help you organise the list of tasks.

Part 2

Use **for** loops to generate the following text output and cell array:

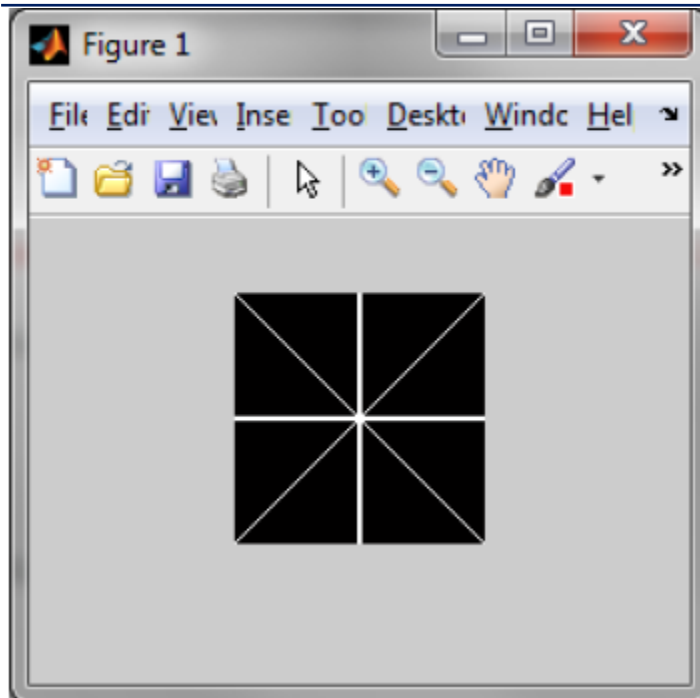
<pre>This is line 1 This is line 2 This is line 3 This is line 4 This is line 5 This is line 6 This is line 7 This is line 8 This is line 9 This is line 10</pre>	<pre>cellarray = 'This is line 1' 'This is line 2' 'This is line 3' 'This is line 4' 'This is line 5' 'This is line 6' 'This is line 7' 'This is line 8' 'This is line 9' 'This is line 10'</pre>
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Part 3

A greyscale digital image can be defined as a two dimensional matrix containing 0's (representing black) and 1's (representing white). Research the **eye** function (type **help eye** in the command window for information). Hence create a 100x100 identity matrix and use **imshow** to plot a greyscale representation of the identity matrix.

Now use **for** loops and **if** statements to add to the identity matrix the following white lines:

- Add a horizontal line at rows 50 and 51.
- Add a vertical line at columns 50 and 51.
- Add a diagonal line from top-right to bottom left.



Part 4

Use two nested **for** loops to create the following 2D array:

1	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20
3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
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17	34	51	68	85	102	119	136	153	170
18	36	54	72	90	108	126	144	162	180
19	38	57	76	95	114	133	152	171	190
20	40	60	80	100	120	140	160	180	200