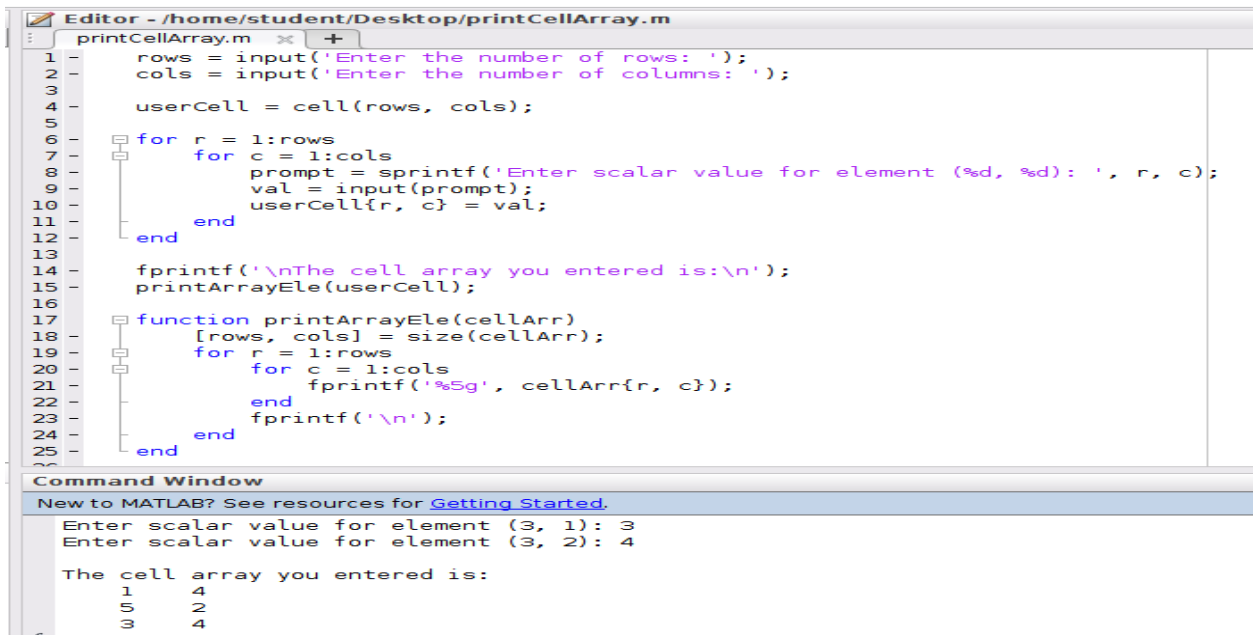


ASSIGNMENT: 6

1. Write a user-defined function in MATLAB, named `printCellArray` that takes a 2-D cell array and displays the data in each container. You may assume that the cell array contains only scalar data (no array, structure, structure array, cell, or cell array). Hint MATLAB's `size()` function works for cell arrays. For example for the cell array `{10 37; 12 8; 2 46}` should be displayed as shown below,

1. 10 37
2. 12 8
3. 2 46



The screenshot shows the MATLAB Editor with a file named `printCellArray.m`. The code defines a function `printCellArray` that takes the number of rows and columns as input, creates a cell array, and populates it with scalar values. It also includes a sub-function `printArrayEle` to display the cell array contents.

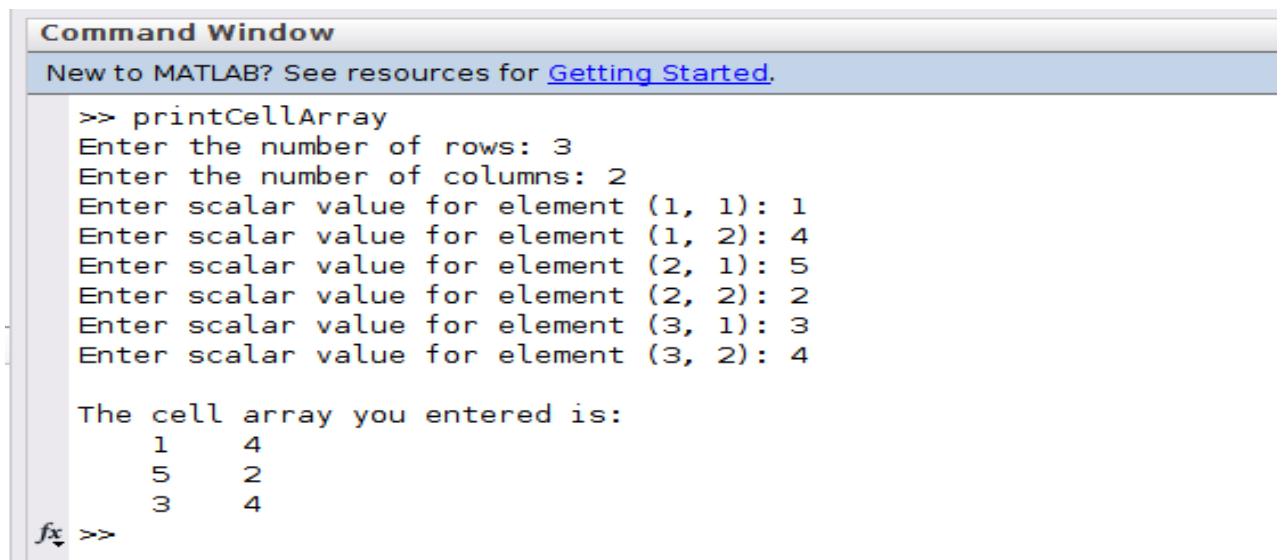
```
1 rows = input('Enter the number of rows: ');
2 cols = input('Enter the number of columns: ');
3
4 userCell = cell(rows, cols);
5
6 for r = 1:rows
7     for c = 1:cols
8         prompt = sprintf('Enter scalar value for element (%d, %d): ', r, c);
9         val = input(prompt);
10        userCell{r, c} = val;
11    end
12 end
13
14 fprintf('\nThe cell array you entered is:\n');
15 printArrayEle(userCell);
16
17 function printArrayEle(cellArr)
18     [rows, cols] = size(cellArr);
19     for r = 1:rows
20         for c = 1:cols
21             fprintf('%5g', cellArr{r, c});
22         end
23         fprintf('\n');
24     end
25 end
```

The Command Window shows the execution of the function with the following output:

```
New to MATLAB? See resources for Getting Started.
Enter scalar value for element (3, 1): 3
Enter scalar value for element (3, 2): 4

The cell array you entered is:
     1     4
     5     2
     3     4
```

Output:

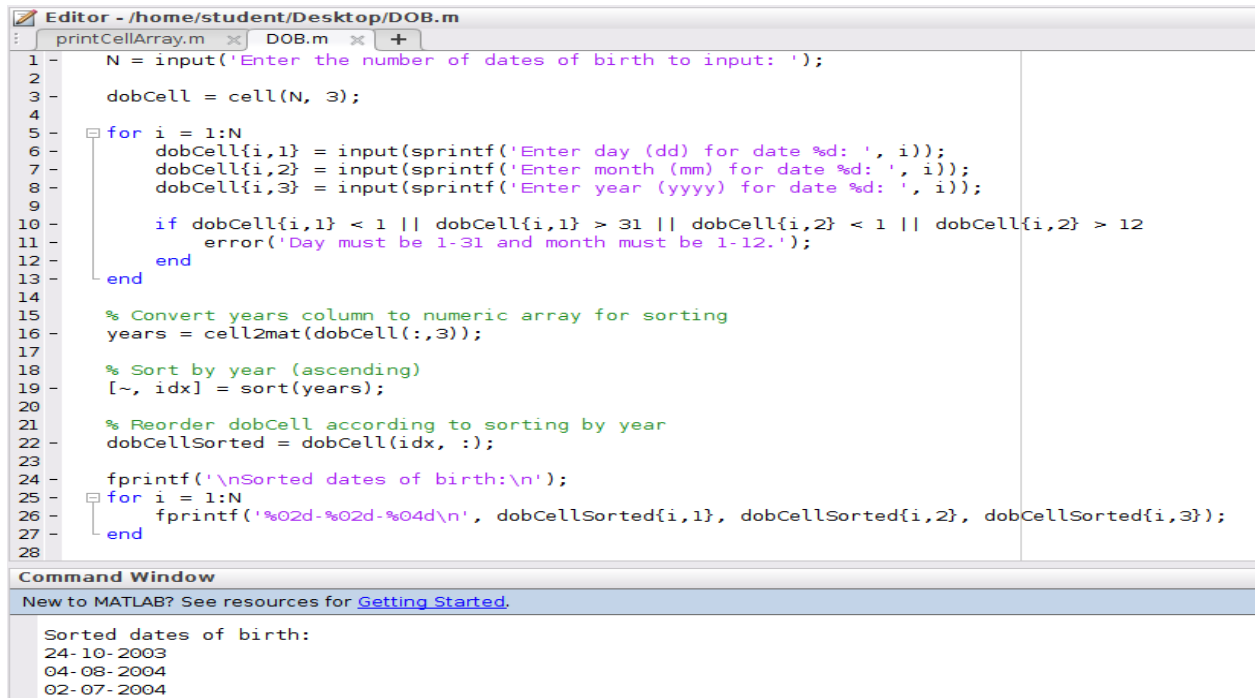


The screenshot shows the MATLAB Command Window with the following input and output:

```
>> printCellArray
Enter the number of rows: 3
Enter the number of columns: 2
Enter scalar value for element (1, 1): 1
Enter scalar value for element (1, 2): 4
Enter scalar value for element (2, 1): 5
Enter scalar value for element (2, 2): 2
Enter scalar value for element (3, 1): 3
Enter scalar value for element (3, 2): 4

The cell array you entered is:
     1     4
     5     2
     3     4
fx >>
```

2. Write a MATLAB script-file to read date of birth (dd, mm and yyyy separately) from user and store in a cell array. The cell array should be arranged as an Nx3 cell array where column one holds the day (dd), column two holds the month (mm) and column three holds the year (yyyy). Finally, sort the newly created cell array in ascending order of year and print it on screen. The output should be as shown in the following example,
- A. 20-05-1995
 - B. 16-08-1997
 - C. 12-12-2000
 - D. 06-01-2010



The image shows a MATLAB Editor window with a script named `DOB.m` and a Command Window showing the output of the script.

Editor - /home/student/Desktop/DOB.m

```
1 N = input('Enter the number of dates of birth to input: ');
2
3 dobCell = cell(N, 3);
4
5 for i = 1:N
6     dobCell{i,1} = input(sprintf('Enter day (dd) for date %d: ', i));
7     dobCell{i,2} = input(sprintf('Enter month (mm) for date %d: ', i));
8     dobCell{i,3} = input(sprintf('Enter year (yyyy) for date %d: ', i));
9
10    if dobCell{i,1} < 1 || dobCell{i,1} > 31 || dobCell{i,2} < 1 || dobCell{i,2} > 12
11        error('Day must be 1-31 and month must be 1-12.');

Command Window



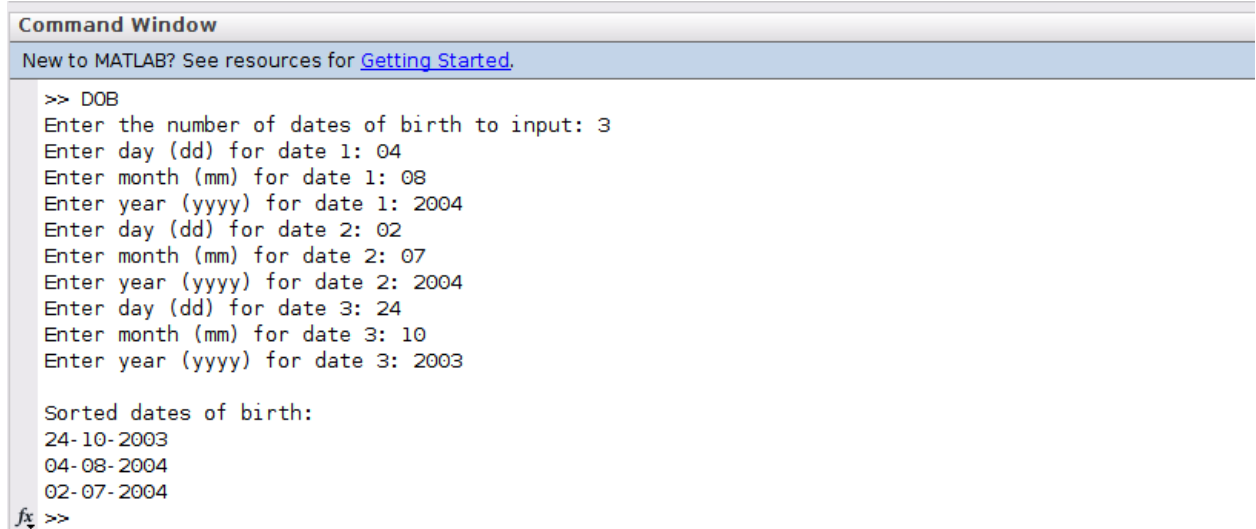
New to MATLAB? See resources for Getting Started.



```
Sorted dates of birth:
24-10-2003
04-08-2004
02-07-2004
```


```

Output:



The image shows a MATLAB Command Window with the interactive execution of the script.

Command Window

New to MATLAB? See resources for [Getting Started](#).

```
>> DOB
Enter the number of dates of birth to input: 3
Enter day (dd) for date 1: 04
Enter month (mm) for date 1: 08
Enter year (yyyy) for date 1: 2004
Enter day (dd) for date 2: 02
Enter month (mm) for date 2: 07
Enter year (yyyy) for date 2: 2004
Enter day (dd) for date 3: 24
Enter month (mm) for date 3: 10
Enter year (yyyy) for date 3: 2003

Sorted dates of birth:
24-10-2003
04-08-2004
02-07-2004
fx >>
```