ASSIGNMENT: 5

Create a cell array, called studentData, of Names, Ages, and Total marks, e.g.,

studentData = {'Aamir', 7, 45;

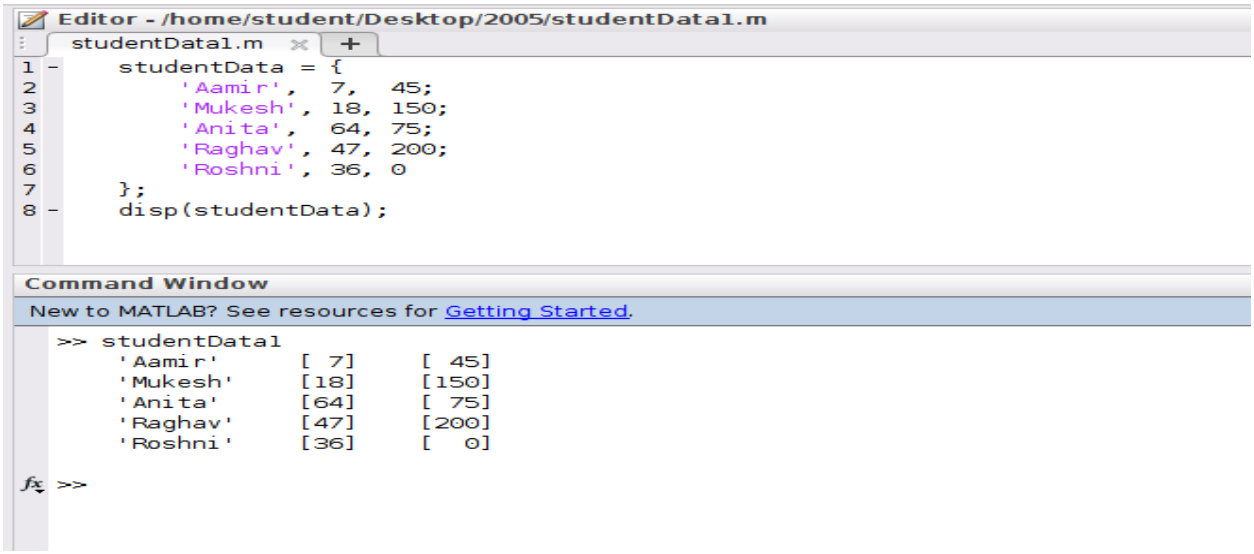
'Mukesh', 18, 150;

'Anita', 64, 75;

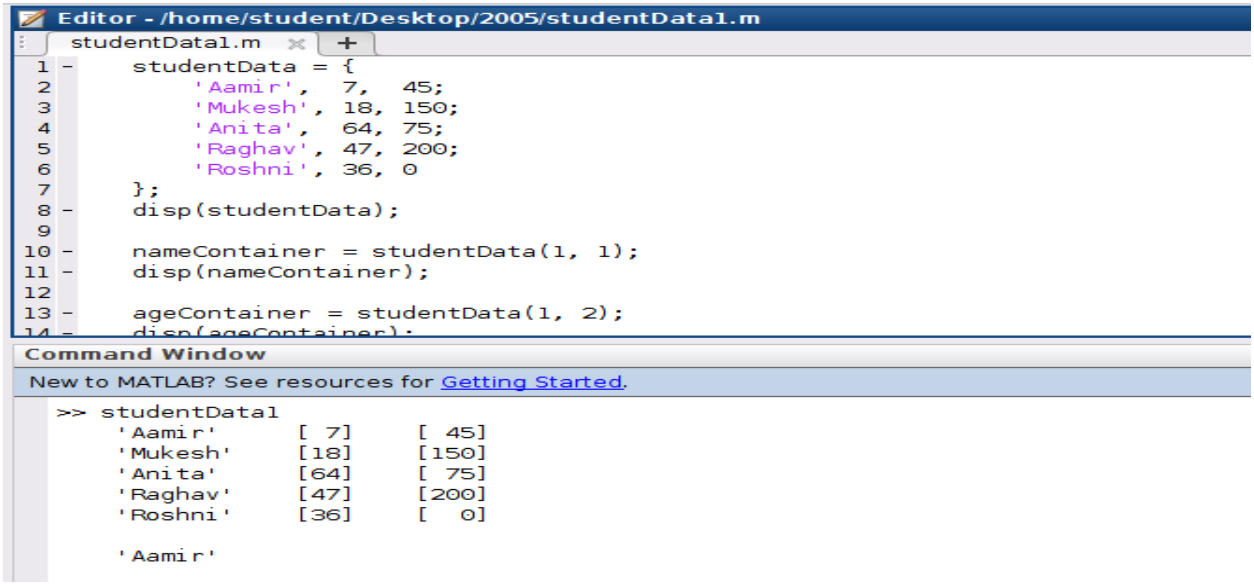
'Raghav', 47, 200;

'Roshni', 36, 0};

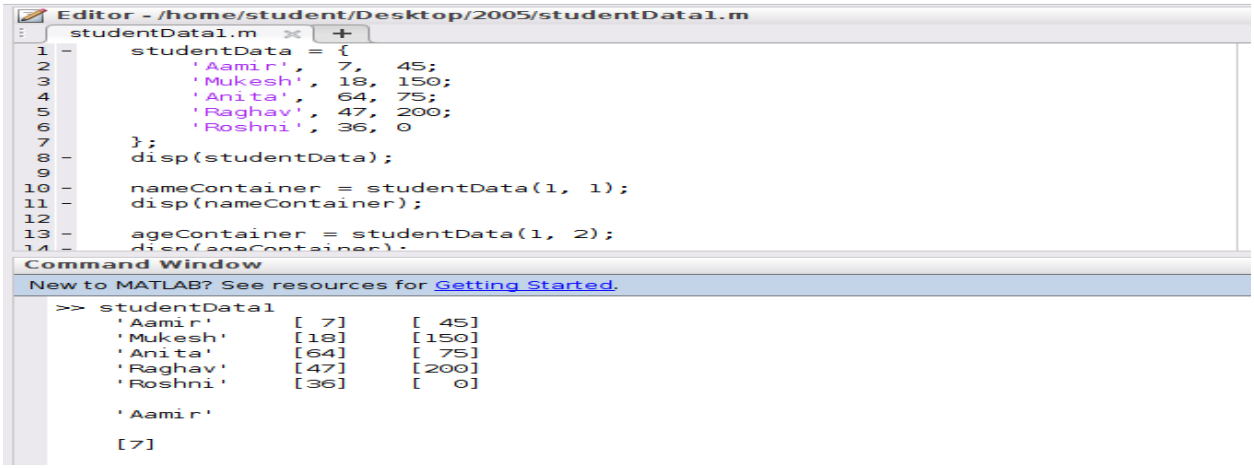
1. Display the cell array using the MATLAB disp() function. How is the data in the cell array displayed?



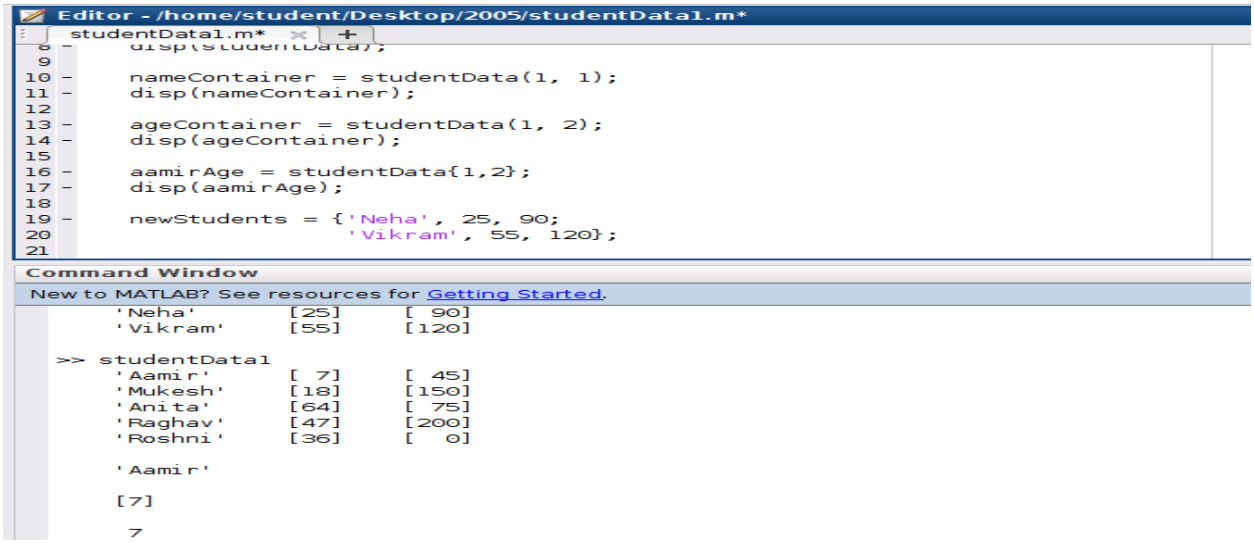
2. Extract the container holding the first name (Aamir) using cell array indexing.



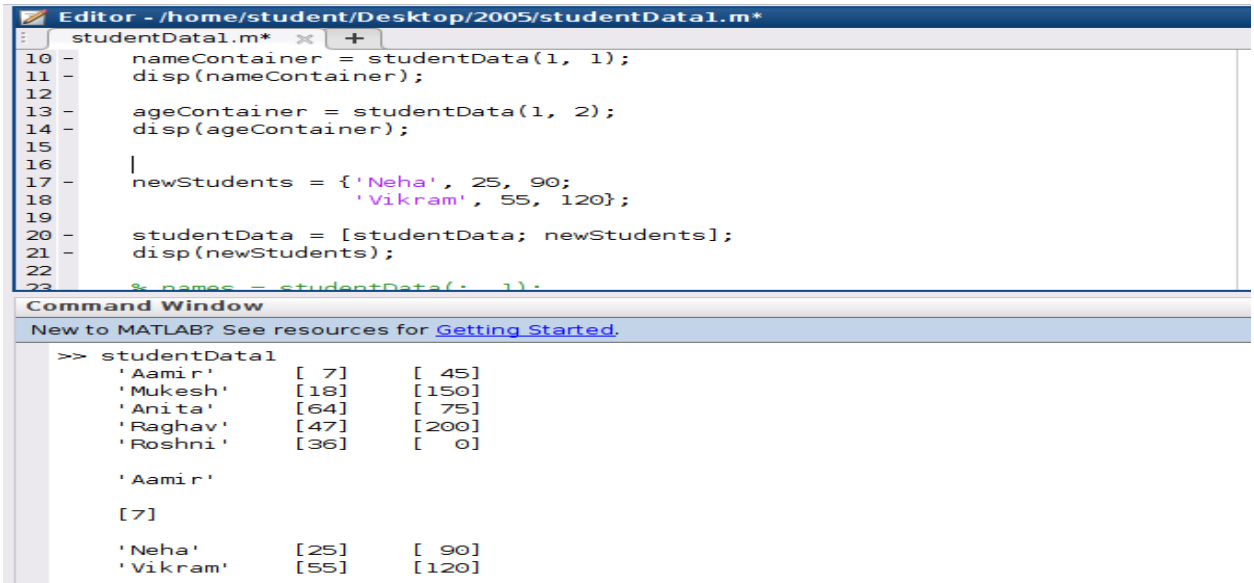
3. Extract the container holding Aamir's age using cell array indexing.



4. Extract the numeric data for Aamir's age using cell array indexing.



5. Add records for two more students in the above cell array.



6. Sort studentData in ascending order of Ages.

```
ages = cell2mat(studentData(:,2));
[~,idx] = sort(ages);
studentData = studentData(idx, :);
disp(studentData);
```

```
>> studentData1
    'Aamir'     [ 7]    [ 45]
    'Mukesh'    [18]    [150]
    'Roshni'    [36]    [  0]
    'Raghav'    [47]    [200]
    'Anita'     [64]    [ 75]

>> studentData1
    'Aamir'     [ 7]    [ 45]
    'Mukesh'    [18]    [150]
    'Anita'     [64]    [ 75]
    'Raghav'    [47]    [200]
    'Roshni'    [36]    [  0]

    'Aamir'     [ 7]    [ 45]
    'Mukesh'    [18]    [150]
    'Roshni'    [36]    [  0]
    'Raghav'    [47]    [200]
    'Anita'     [64]    [ 75]
```

7. Extract Names column as a single vector.

Editor - /home/student/Desktop/2005/studentData1.m

```
%
% studentData = [studentData; newStudents];
% disp(newStudents);

% names = studentData(:, 1);

ages = cell2mat(studentData(:,2));
[~,idx] = sort(ages);
studentData = studentData(idx, :);
disp(studentData);

names = studentData(:,1);
disp(names);
```

```
>> studentData1
    'Aamir'     [ 7]    [ 45]
    'Mukesh'    [18]    [150]
    'Anita'     [64]    [ 75]
    'Raghav'    [47]    [200]
    'Roshni'    [36]    [  0]

    'Aamir'     [ 7]    [ 45]
    'Mukesh'    [18]    [150]
    'Roshni'    [36]    [  0]
    'Raghav'    [47]    [200]
    'Anita'     [64]    [ 75]

    'Aamir'
    'Mukesh'
    'Roshni'
    'Raghav'
    'Anita'
```

Replace the Total marks for all students from figures to words (e.g. 45 should be replaced with 'Forty five') in studentData.

Editor - /home/student/Desktop/2005/studentData1.m

```
% ---------- Main Script Code ----------
studentData = {
    'Aamir',  7,  45;
    'Mukesh', 18, 150;
    'Anita',  64, 75;
    'Raghav', 47, 200;
    'Roshni', 36, 0
};

% Add two more students
newStudents = {
    'Sanjay', 29, 88;
    'Leena',  54, 120
```

```
>> studentData1
    'Aamir'     [ 7]    'Forty five'
    'Mukesh'    [18]    'One hundred and Fifty'
    'Sanjay'    [29]    'Eighty eight'
    'Roshni'    [36]    'Zero'
    'Raghav'    [47]    'One hundred and One hundred'
    'Leena'     [54]    'One hundred and Twenty'
    'Anita'     [64]    'Seventy five'
```