HKUSTx: ELEC1200.3x A System View of Communications: From Signals to Packets (Part 3)

how do you display the routing table? (RT)

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discussion posted about 18 hours ago by KarenWest

I've just started lab 2, and wanted to peek at the routing table. How do you display it? When I tried:

```
    disp(RT(pcount));
```

It said "6x2 double".

When I tried adding a column, I got syntax errors, such as:

```
 disp(RT(pcount,1));
 disp(RT(pcount, 2));

Incorrect syntax!  I did that when I saw the first error message,
"6x2 double matrix".
```

Thanks!

Related to: Topic 4: Routing / 4.5a Lab 2: Network Layer

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KarenWest

about 17 hours ago

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I tried this and it gave:

```
         % load the routing table
         load RT.mat
         whos('-file','RT.mat')
```

gave output: (still not enough detail)

```
         Name   Size    Bytes   Class
Attributes

         RT          6x1     1248        cell

         costs       6x1     832         cell

         neighbors   6x1     832         cell
```

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KarenWest

about 5 hours ago

0 Votes

I was a bit shocked to wake this morning to find that no one had responded to my question! Wow. Can anyone help with my MATLAB syntax question, so that I can proceed to answer the conceptual question about routing and forwarding in Lab 2? I appreciate any help, given I've done quite a bit of web searching and trials of this on my end.

```
     load RT.mat
     S = whos('-file','RT.mat');
     for k = 1:length(S)
           disp(S(k));
     end
     for k = 1:length(S)
            disp(S(k).name);
            disp(S(k).size);
     end
```

Output:

```
     name: 'RT'
     size: [6 1]
     bytes: 1248
     class: 'cell'
     global: 0
     sparse: 0
     complex: 0
     nesting: [1x1 struct]
     persistent: 0

     name: 'costs'
     size: [6 1]
     bytes: 832
     class: 'cell'
     global: 0
     sparse: 0
     complex: 0
     nesting: [1x1 struct]
     persistent: 0

    name: 'neighbors'
    size: [6 1]
    bytes: 832
    class: 'cell'
    global: 0
    sparse: 0
    complex: 0
    nesting: [1x1 struct]
    persistent: 0
```

```
RT
6 1

costs
6 1

neighbors
6 1
```

Add a comment

KarenWest

about 5 hours ago

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...

No MATLAB Syntax error for this hard coded disp:

```
    disp(RT{2}(1,2));
```

Gives you 2 as output

Maybe I can work it out from here, although I'm curious why the commands I was trying to use above did not work. I do not know MATLAB other than what I've done in parts 1 and 2 of this class.

I'm guessing I use pcount in the curly brackets, and then the (1,2) specified with other select variables, in order to see the node routed to.

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KarenWest

about 2 hours ago

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I don't think any one else had trouble displaying the RT table, and no one responded here, but for some reason this morning - what I tried before but did not work now works. As simple as:

```
  disp(RT{number});
```

displays 6 RT entries of 2 columns as expected. I have no idea why it was not before!

Add a comment

BrandonArmstrong

about an hour ago

0 Votes

Hi Karen,

Notice in your 2nd post that the attributes shows that the variables are cell arrays. Cell arrays allow mixed data types to be stored and is also a way to organize data. For example:

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[STAFF] Any plans for an

```
testCell = cell(4,1);
testCell{1} = 'Brandon';
testCell{2} = 34;
testCell{3} = rand(5)
testCell{4} = testCell(1:3)
```

I now have a single variable with a character array, a scalar, a matrix, and another cell array! You've noticed the curly braces already. When you access an element of a cell array with parenthesis, you return another cell array. For example:

thirdElement = testCell(3)

returns a 1x1 cell array, not the 5x5 matrix. We've only extracted 1 cell from our 4x1 cell array. To return the contents of a cell, we must use curly braces

```
thirdElement = testCell{3}
```

Now, thirdElement is a 5x5 matrix I can index the matrix as I before. If I want the 2nd row and 3rd column of this matrix, I do

```
value = thirdElement(2,3)
```

What you discovered is a shorter way to do the same thing. Your code

```
RT{2}(1,2)
```

first grabs the contents of the 2nd cell. The contents are a 6x2 matrix (all cells in RT contain a 6x2 matrix). Then you access the 1st row and 2nd column of that matrix.

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Finally, think of RT in this way. I have 6, 6x2 matrices that are all related. I don't want to create 6 separate variables, I'd prefer to store them in a single variable. One way to do this is with a cell array!

I hope this helps clarify the syntax. Let me know if you have questions/confusions.

Thank you Brandon! I'm saving that for future reference. I do not use MATLAB that often (at the moment anyway) so if I save the info. for future reference, I won't forget. Thank you!

...

posted less than a minute ago by KarenWest

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