



Medical Physics

Second Stage

Lec6

Array Operations

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Array Operations

The matrix consists of a number of rows and a number of columns, each of which is symbolized by a transformation. We use matrices in many engineering applications to solve complex problems. The elements of the matrix can be real or complex values, and the rows are usually symbolized by

Matricname(m,n)

Where: **m** is the number of rows, **n** is the number of columns.

- Create a (4,4) matrix named A

$$A = [3443;4567;5674;4567]$$

-Recall an element from an array by row number and column number.

To call the second element from the third row, we write:

For example

$$A(3,2)$$
 ans = 6

- Recall an element from an array by sorting it.

$$A(8)$$
 ans = 5

*Where counting is done from the top of the column to the bottom and in order.

- Recall a row from an array.

$$A(3,:)$$
 ans = 5 6 7 4

- Recall a column from an array.

A(:,4)

Ans =

3

7

4

7

- Recall the second row that contains the last three elements (without the first element).

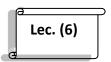
$$A(2,2:4)$$
 ans = 5 6 7

- Recall the first and last elements of the third row.

$$A(3,1:3:4)$$
 ans = 54

- Add a column at the end of the array.

$$A(:,5) = [3500]$$



- Delete the second column from the new matrix.

The matrix becomes as shown

- Replace an element of the matrix with a new element.

$$A(3,4) = 11$$

The matrix becomes as shown

