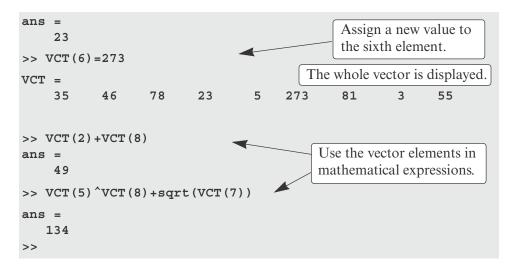
2.5 Array Addressing 43



## 2.5.2 *Matrix*

The address of an element in a matrix is its position, defined by the row number and the column number where it is located. For a matrix assigned to a variable ma, ma(k,p) refers to the element in row k and column p.

For example, if the matrix is: 
$$ma = \begin{bmatrix} 3 & 11 & 6 & 5 \\ 4 & 7 & 10 & 2 \\ 13 & 9 & 0 & 8 \end{bmatrix}$$
  
then  $ma(1,1) = 3$  and  $ma(2,3) = 10$ .

As with vectors, it is possible to change the value of just one element of a matrix by assigning a new value to that element. Also, single elements can be used like variables in mathematical expressions and functions. Some examples are:

```
>> MAT=[3 11 6 5; 4 7 10 2; 13 9 0 8]
                                                      Create a 3 \times 4 matrix.
MAT =
      3
             11
                       6
                               5
      4
              7
                      10
                               2
     13
              9
                       0
                               8
>> MAT(3,1)=20
                                    Assign a new value to the (3,1) element.
MAT =
      3
             11
                       6
                               5
      4
              7
                      10
                               2
     20
              9
                       0
                               8
                                 Use elements in a mathematical expression.
>> MAT(2,4)-MAT(1,2)
ans =
     - 9
```