dow, in a script file, and, as will be shown later, in a function file. When these commands are used in a script file, the display output that they generate is displayed in the Command Window.

4.3.1 *The* `disp` *Command*

The `disp` command is used to display the elements of a variable without displaying the name of the variable, and to display text. The format of the `disp` command is:

```
disp(name of a variable) or   disp('text as string')
```

- Every time the `disp` command is executed, the display it generates appears in a new line. One example is:

```
>> abc = [5  9  1;  7  2  4]
>> disp(abc)
     5     9     1
     7     2     4

>> disp('The problem has no solution.')

The problem has no solution.
>>
```

A 2×3 array is assigned to variable `abc`.

The `disp` command is used to display the `abc` array.

The array is displayed without its name.

The `disp` command is used to display a message.

The next example shows the use of the `disp` command in the script file that calculates the average points scored in three games.

```
% This script file calculates the average points scored in
three games.
% The points from each game are assigned to the variables by
% using the input command.
% The disp command is used to display the output.

game1=input('Enter the points scored in the first game    ');
game2=input('Enter the points scored in the second game   ');
game3=input('Enter the points scored in the third game    ');
ave_points=(game1+game2+game3)/3;
disp(' ')
disp('The average of points scored in a game is:')
disp(' ')
disp(ave_points)
```

Display empty line.

Display text.

Display empty line.

Display the value of the variable `ave_points`.

When this file (saved as Chapter4Example5) is executed, the display in the Command Window is:

```
>> Chapter4Example5
Enter the points scored in the first game    89
Enter the points scored in the second game   60
Enter the points scored in the third game    82
                                                    An empty line is displayed.
The average of points scored in a game is:          The text line is displayed.
                                                    An empty line is displayed.
   77                    The value of the variable ave_points is displayed.
```

- Only one variable can be displayed in a `disp` command. If elements of two variables need to be displayed together, a new variable (that contains the elements to be displayed) must first be defined and then displayed.

In many situations it is nice to display output (numbers) in a table. This can be done by first defining a variable that is an array with the numbers and then using the `disp` command to display the array. Headings to the columns can also be created with the `disp` command. Since in the `disp` command the user cannot control the format (the width of the columns and the distance between the columns) of the display of the array, the position of the headings has to be aligned with the columns by adding spaces. As an example, the script file below shows how to display the population data from Chapter 2 in a table.

```
yr=[1984 1986 1988 1990 1992 1994 1996];   The population data is entered in two row vectors.
pop=[127 130 136 145 158 178 211];
tableYP(:,1)=yr'    yr is entered as the first column in the array tableYP.
tableYP(:,2)=pop';  pop is entered as the second column in the array tableYP.
disp('         YEAR      POPULATION')     Display heading (first line).
disp('                   (MILLIONS)')     Display heading (second line).
disp(' ')                                 Display an empty line.
disp(tableYP)                             Display the array tableYP.
```

When this script file (saved as PopTable) is executed, the display in the Command Window is:

```
>> PopTable
        YEAR      POPULATION                Headings are displayed.
                  (MILLIONS)
                                            An empty line is displayed.
        1984         127
```