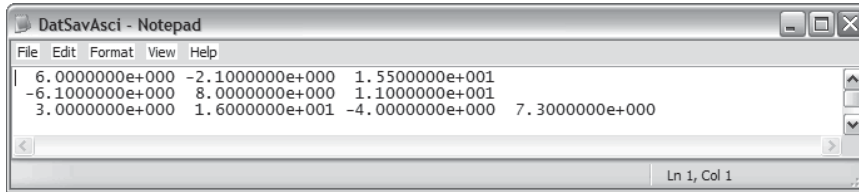


Once saved, the file can be opened by any application that can read ASCII files. For example, Figure 4-5 shows the data when the file is opened with Notepad.



**Figure 4-5: Data saved in ASCII format.**

Note that the file does not include the names of the variables, just the numerical values of the variables (first *A* and then *V*) are listed.

#### 4.4.2 The *load* Command

The `load` command can be used for retrieving variables that were saved with the `save` command back to the workspace, and for importing data that was created with other applications and saved in ASCII format or in text (.txt) files. Variables that were saved with the `save` command in .mat files can be retrieved with the command:

```
load file_name
```

or

```
load('file_name')
```

When the command is executed, all the variables in the file (with the name, type, size, and values as were saved) are added (loaded back) to the workspace. If the workspace already has a variable with the same name as a variable that is retrieved with the `load` command, then the variable that is retrieved replaces the existing variable. The `load` command can also be used for retrieving only some of the variables that are in the saved .mat file. For example, to retrieve two variables named `var1` and `var2`, the command is:

```
load file_name var1 var2
```

or

```
load('file_name', 'var1', 'var2')
```

The `load` command can also be used to import data that is saved in ASCII or text (.txt) to the workspace. This is possible, however, only if the data in the file is in the form of a variable in MATLAB. Thus, the file can have one number (scalar), a row or a column of numbers (vector), or rows with the same number of numbers in each (matrix). For example, the data shown in Figure 4-5 cannot be loaded with the `load` command (even though it was saved in ASCII format with the `save` command), because the number of elements is not the same in all rows. (Recall that this file was created by saving two different variables.)

When data is loaded from an ASCII or text file into the workspace, it has to be assigned to a variable name. Data in ASCII format can be loaded with either of the following two forms of the load command:

`load file_name`

or

`VarName=load('file_name')`

If the data is in a text file, the extension .txt has to be added to the file name. The form of the load command is then:

`load file_name.txt`

or

`VarName=load('file_name.txt')`

In the first form of the command the data is assigned to a variable that has the name of the file. In the second form the data is assigned to a variable named VarName.

For example, the data shown in Figure 4-6 (a  $3 \times 2$  matrix) is typed in Notepad, and then saved as DataFromText.txt.

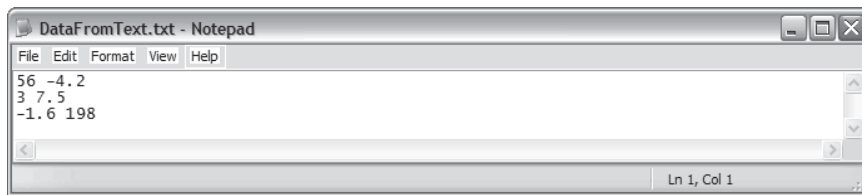


Figure 4-6: Data saved as .txt file.

Next, two forms of the load command are used to import the data in the text file to the Workspace of MATLAB. In the first command the data is assigned to a variable named DfT. In the second command the data is automatically assigned to a variable named DataFromText, which is the name of the text file where the data was saved.

```
>> DfT=load('DataFromText.txt')
```

```
DfT =  
    56.0000    -4.2000  
     3.0000     7.5000  
    -1.6000    198.0000
```

```
>> load DataFromText.txt
```

```
>> DataFromText  
DataFromText =  
    56.0000    -4.2000  
     3.0000     7.5000  
    -1.6000    198.0000
```

Load the file DataFromText and assign the loaded data to the variable DfT.

Use the load command with the file DataFromText.

The data is assigned to a variable named DataFromText.

Importing data to (or exporting from) other applications can also be done, with MATLAB commands that are presented in the next section.