

DSP – Experiment 5 – Output

Cross correlation Output

The screenshot displays the Scilab 6.1.1 interface with the following components:

- Editor:** Shows the script `cross_correlation.sce` with the following code:

```
1 // Program for Cross Correlation -- DSP Lab 5 --  
2 // Kunal Keshan  
3 clc;  
4 clear;  
5 x = input('Enter the first sequence: ');  
6 h = input('Enter the second sequence: ');  
7 y = xcorr(x, h);  
8 disp(y, 'Cross Correlation = ');
```
- Console:** Shows the execution output:

```
Enter the first sequence: [1 2 3 4]  
Enter the second sequence: [3 4 5 6]  
  
6. 17. 32. 50. 38. 25. 12.  
"Cross Correlation = "  
-->
```
- Variable Browser:** Displays the workspace variables:

Variable	Value
h	[... D... local 2...
x	[... D... local 2...
y	1x7 D... local 2...
- Command History:** Lists the executed commands with timestamps:

```
-- // -- 03/09/2022 15:2  
-- // -- 03/09/2022 15:2  
-- // -- 03/09/2022 15:2  
-- // -- 06/09/2022 14:4  
-- // -- 07/09/2022 14:5
```
- Bottom Panel:** Includes a file browser, a status bar showing "Line 7, Column 32.", and a Windows taskbar at the bottom with system icons (time, temperature, date).

Auto Correlation

The screenshot displays the Scilab 6.1.1 IDE interface. The main editor window shows a script named `auto_correlation.sce` with the following code:

```
1 // Auto Correlation -- DSP Lab -- Experiment 4 -- Kunal Keshan
2 RA2011004010051 -- Kunal Keshan
3 clc;
4 clear;
5 x = input('Enter the first sequence: ');
6 y = xcorr(x);
7 disp(y, "Auto correlation = ");
```

The Command History window on the right shows the execution of the script, including the input sequence `[1 2 3 4]` and the resulting auto-correlation values:

```
--// --03/09/2022 15:--
[1 2 3 4]
[3 4 5 6]
[1 2 3 4]
[1 2 3 4]
--// --06/09/2022 14:--
dc;
[1 2 3 4]
[3 4 5 6]
[3 5 7 9]
--// --07/09/2022 14:--
[1 2 3 4]
```

The Variable Browser window shows the variables `x` and `y` with their respective values:

Variable	Value
x	[1 2 3 4]
y	[1 2 3 4]

The File Browser window shows the file structure of the project, including folders like `Documents`, `Custom Office Ter`, `LabVIEW Data`, `My Music`, `My Pictures`, `My Videos`, `Zoom`, and `%s`.

The bottom status bar indicates the current line and column: `Line 1, Column 77`.

Spectrum Analysis

