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Grouped with:

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ENGG 151.01-A

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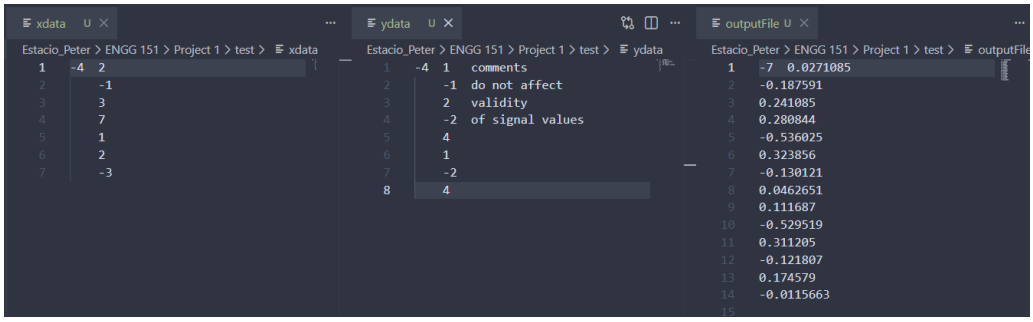
Self Evaluation for Project 1: Normalized Crosscorrelation

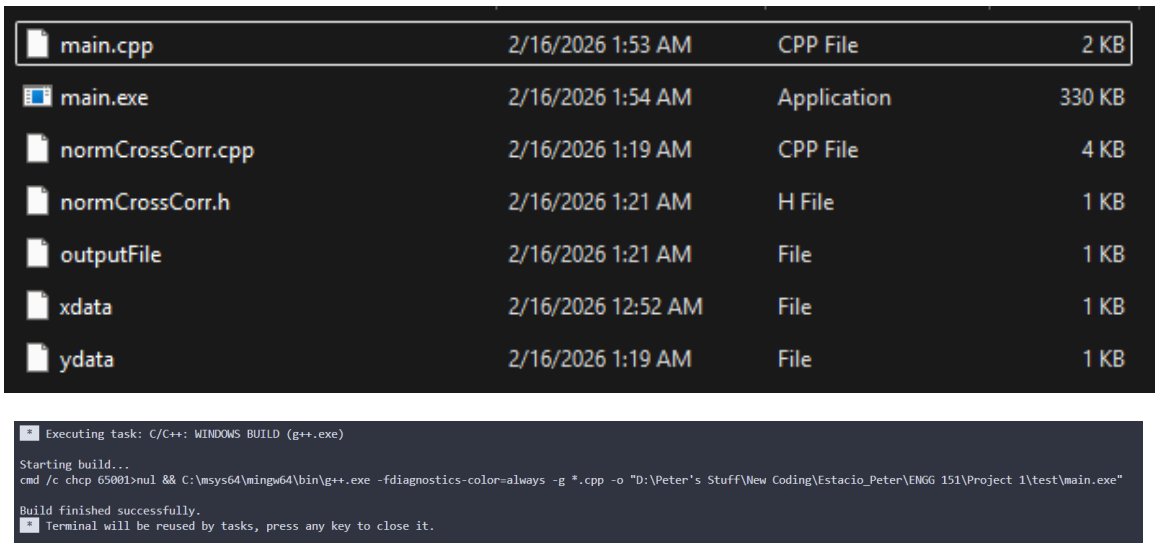
```
PS D:\Peter's Stuff\New Coding\Estacio_Peter\ENGG 151\Project 1\test> ./main xdata ydata outputFile
Signal file 'xdata' with starting index -4 and duration 7 read.
Signal file 'ydata' with starting index -4 and duration 8 read.
p_xy(-7) = 0.0271085
p_xy(-6) = -0.187591
p_xy(-5) = 0.241085
p_xy(-4) = 0.280844
p_xy(-3) = -0.536025
p_xy(-2) = 0.323856
p_xy(-1) = -0.130121
p_xy(0) = 0.0462651
p_xy(1) = 0.111687
p_xy(2) = -0.529519
p_xy(3) = 0.311205
p_xy(4) = -0.121807
p_xy(5) = 0.174579
p_xy(6) = -0.0115663
Exported crosscorrelation signal to outputFile with start index -7 and duration 14.
PS D:\Peter's Stuff\New Coding\Estacio_Peter\ENGG 151\Project 1\test>
```

sample screenshot – executable main run and displaying results of main program

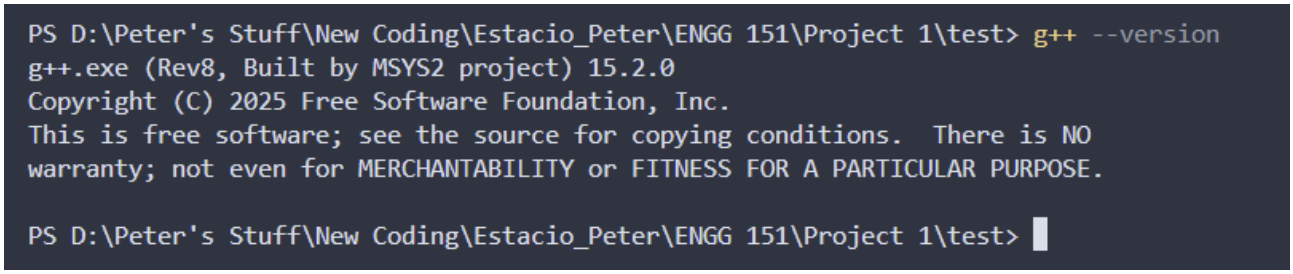


$x_{raw}(n)$	$y_{raw}(n)$	$\rho_{xy}(l)$
-4 2	-4 1 comments	-7 0.0271085
-1	-1 do not affect	-0.187591
3	2 validity	0.241085
7	-2 of signal values	0.280844
1	4	-0.536025
2	1	0.323856
-3	-2	-0.130121
	4	0.0462651
		0.111687
		-0.529519
		0.311205
		-0.121807
		0.174579
		-0.0115663
blank lines / extra lines do not affect signal duration		

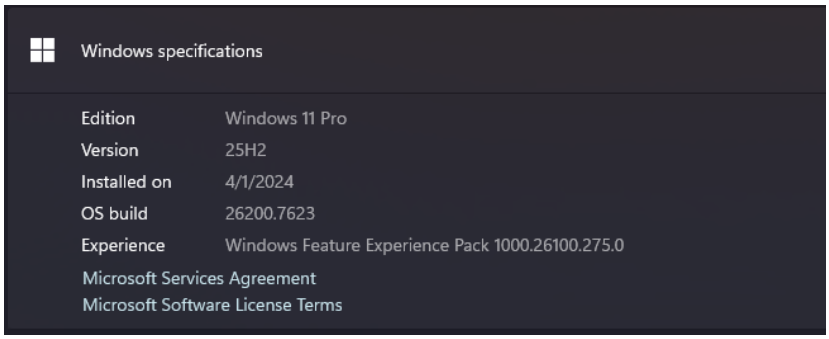
sample screenshots – input signal and output signal files in comparison with basic test signals



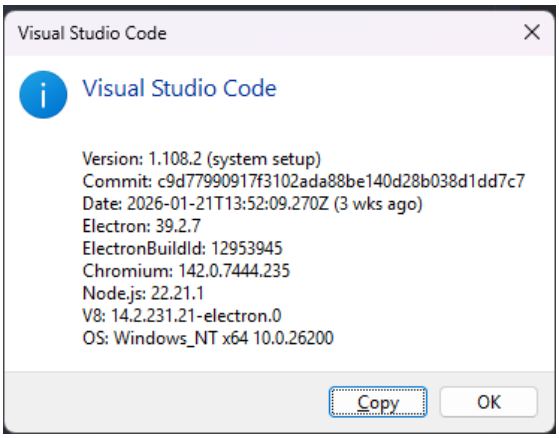
sample screenshot – compilation on Visual Studio Code with directory files



compiler version – g++ version 15.2.0 (Rev8, Built by MSYS2 project)



operating system - Windows 11 Pro, 25H2, build 26200.7623



IDE – Visual Studio Code ver 1.108.2

Code Locator:

code items	file name	line numbers
correlation function	normCrossCorr.cpp	Lines 99 - 159
declaration of double * that are passed to the correlation function	main.cpp	Lines 20 - 21
separate processing of first line of signal file	normCrossCorr.cpp	Lines 44 – 97
input validation of integers in processing signal files	normCrossCorr.cpp	Lines 10 - 25
input validation of floating point numbers in processing signal files	normCrossCorr.cpp	Lines 27 - 42

Project Evaluation - Normalized Crosscorrelation		
Item	Points	Rubrics
early work	8/8	(all or nothing) 8: at most 10% of the code in the final implementation differs from that in early work submission
implementation and testing environment report	4/4	4 - all instructions followed correctly
basic test	50/50	50 - correctly computes the correct normalized crosscorrelation from basic test data
	6/6	6 - screenshot submitted showing the correctly computed normalized crosscorrelation as it appears on the console output
generality of correlation	6/6	6 - the normalized crosscorrelation is computed correctly and efficiently at all times
correlation function	6/6	6 - the normalized crosscorrelation is computed correctly and efficiently at all times, by a function as specified
processing of signal files	4/4	4 - The file is opened only once and the first line of the signal file is processed correctly and separately from code processing the rest of the signal file
input validation	4/4	4 - integers and floating point numbers are fully validated when signal files are processed
command line	4/4	4 - application processes command line arguments correctly at all times
application feedback	4/4	4 - application provides appropriate feedback at all times, as specified
self-evaluation	4/4	4 - self-evaluation accurate (or evaluating this item leads to an error)
total	100	