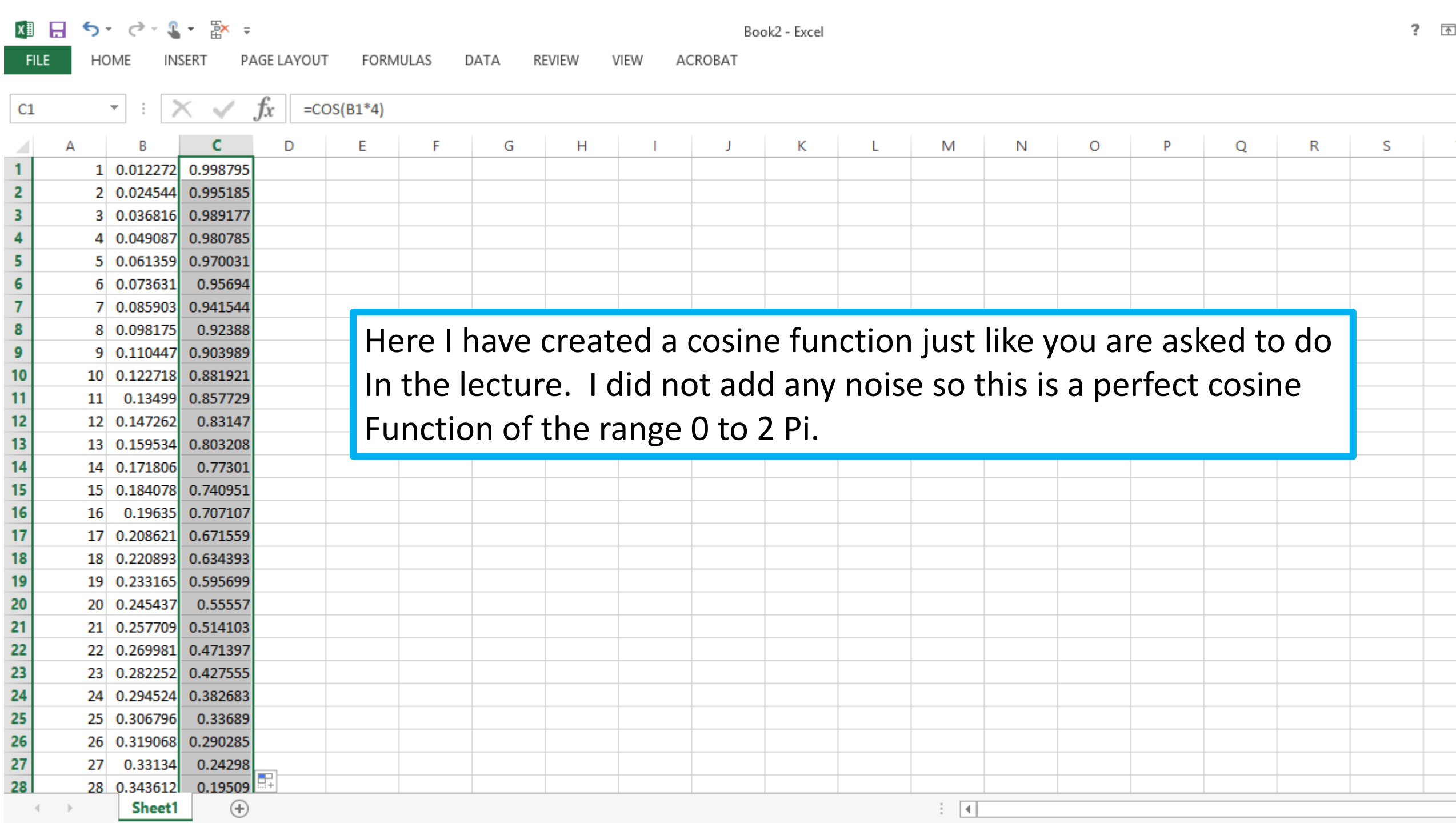
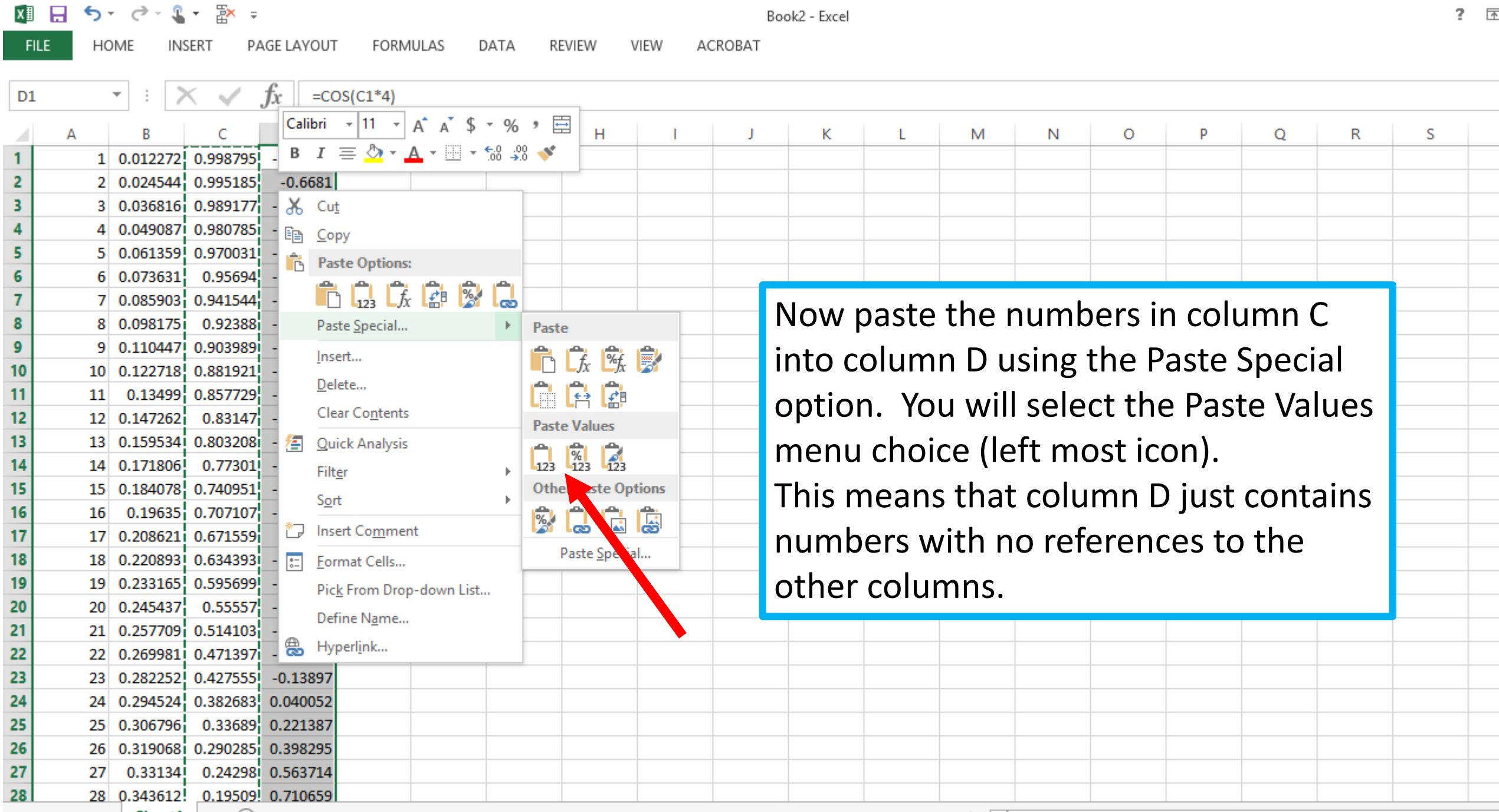
Implementing FFT in Excel

You can do this using the menu tools in Excel

It is an alternative to the Macro developed for the class



	A	B	C
1	1	0.012272	0.998795
2	2	0.024544	0.995185
3	3	0.036816	0.989177
4	4	0.049087	0.980785
5	5	0.061359	0.970031
6	6	0.073631	0.95694
7	7	0.085903	0.941544
8	8	0.098175	0.92388
9	9	0.110447	0.903989
10	10	0.122718	0.881921
11	11	0.13499	0.857729
12	12	0.147262	0.83147
13	13	0.159534	0.803208
14	14	0.171806	0.77301
15	15	0.184078	0.740951
16	16	0.19635	0.707107
17	17	0.208621	0.671559
18	18	0.220893	0.634393
19	19	0.233165	0.595699
20	20	0.245437	0.55557
21	21	0.257709	0.514103
22	22	0.269981	0.471397
23	23	0.282252	0.427555
24	24	0.294524	0.382683
25	25	0.306796	0.33689
26	26	0.319068	0.290285
27	27	0.33134	0.24298
28	28	0.343612	0.19509


Book2 - Excel
FILE
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11
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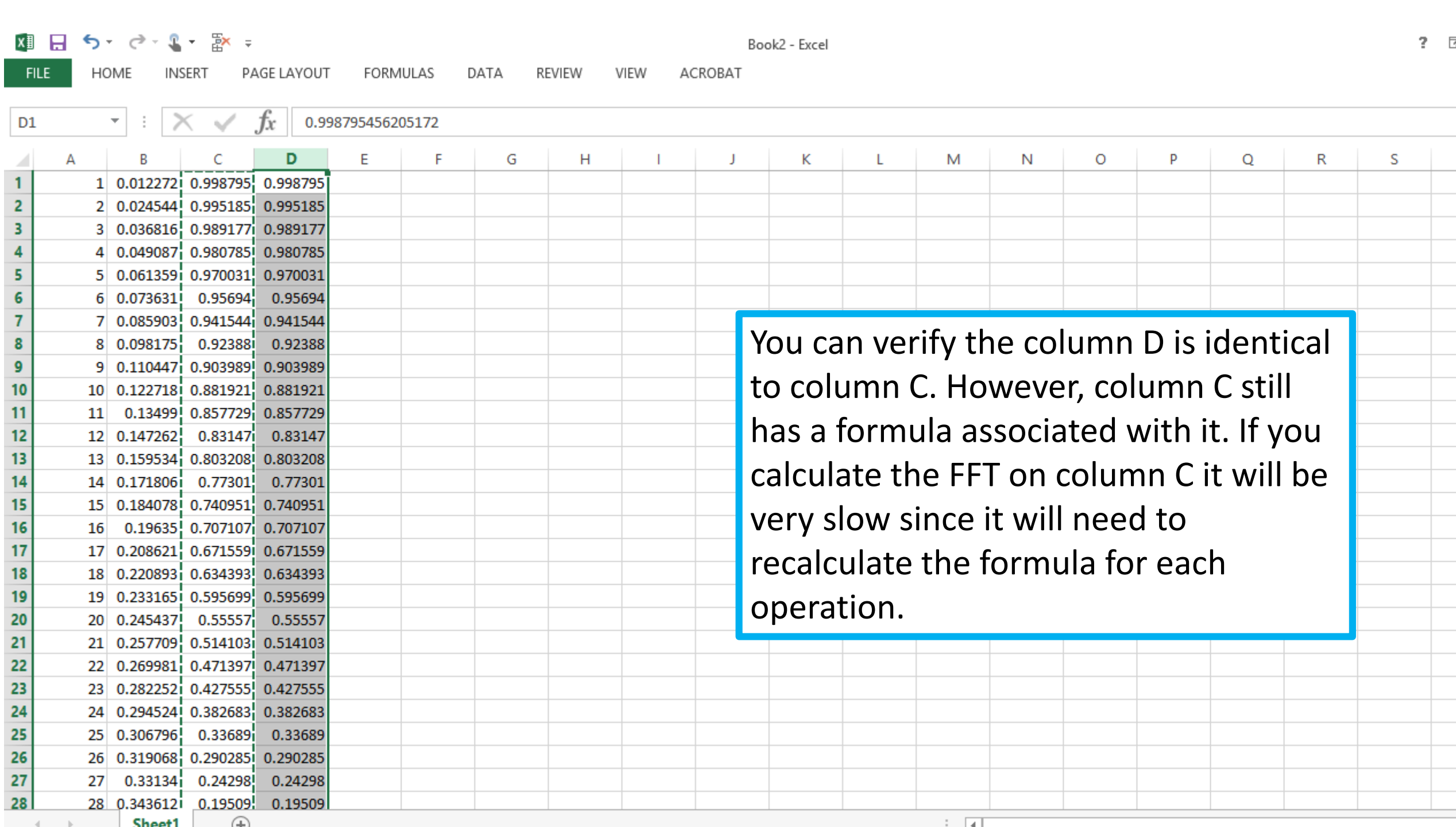
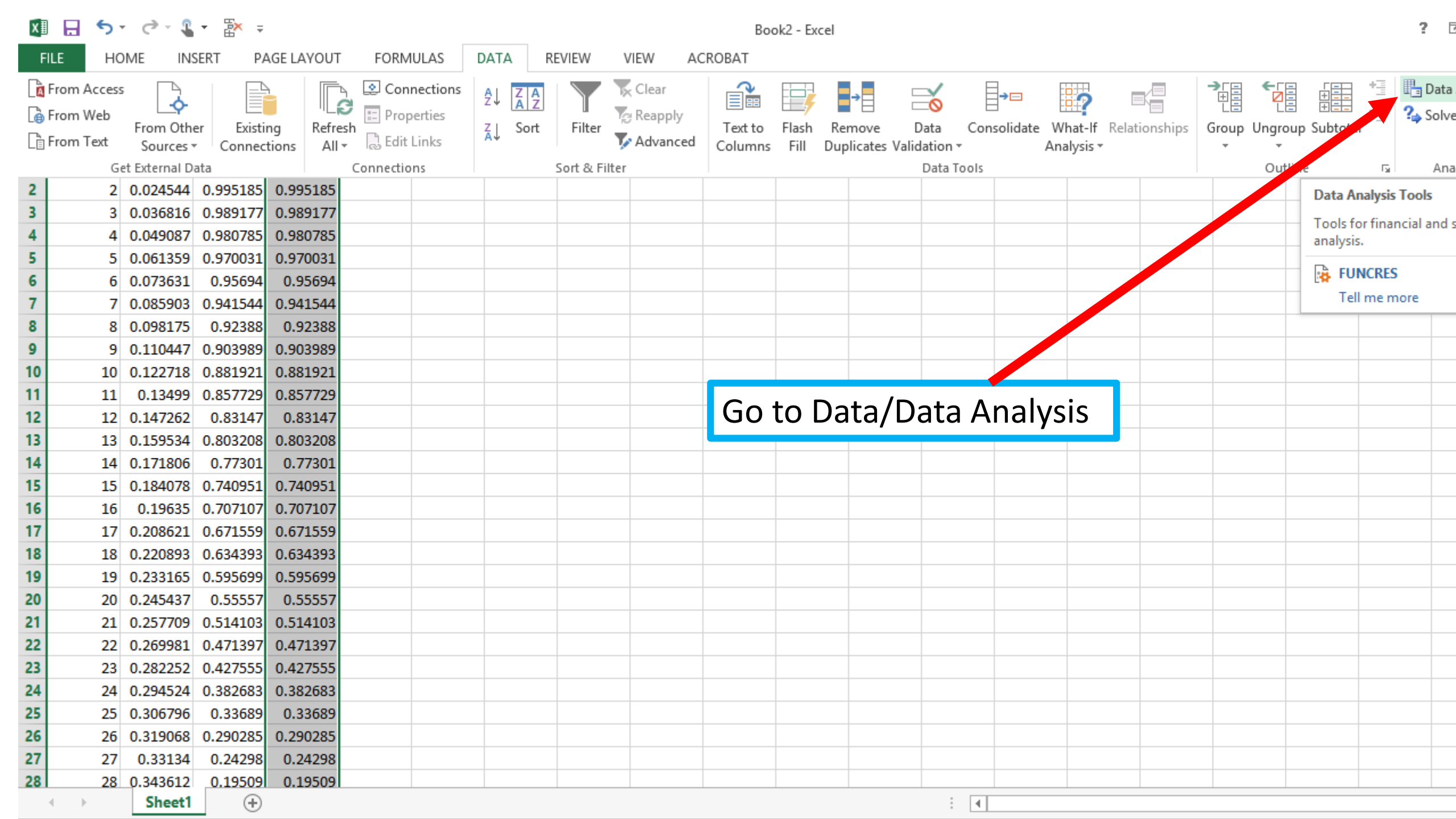
Copy
Paste Options:
Paste Special...
Insert...
Delete...
Clear Contents
Quick Analysis
Filter
Sort
Insert Comment
Format Cells...
Pick From Drop-down List...
Define Name...
Hyperlink...
Paste
Paste Values
Paste Special...
Now paste the numbers in column C into column D using the Paste Special option. You will select the Paste Values menu choice (left most icon).
This means that column D just contains numbers with no references to the other columns.



	A	B	C	D
1	1	0.012272	0.998795	0.998795
2	2	0.024544	0.995185	0.995185
3	3	0.036816	0.989177	0.989177
4	4	0.049087	0.980785	0.980785
5	5	0.061359	0.970031	0.970031
6	6	0.073631	0.95694	0.95694
7	7	0.085903	0.941544	0.941544
8	8	0.098175	0.92388	0.92388
9	9	0.110447	0.903989	0.903989
10	10	0.122718	0.881921	0.881921
11	11	0.13499	0.857729	0.857729
12	12	0.147262	0.83147	0.83147
13	13	0.159534	0.803208	0.803208
14	14	0.171806	0.77301	0.77301
15	15	0.184078	0.740951	0.740951
16	16	0.19635	0.707107	0.707107
17	17	0.208621	0.671559	0.671559
18	18	0.220893	0.634393	0.634393
19	19	0.233165	0.595699	0.595699
20	20	0.245437	0.55557	0.55557
21	21	0.257709	0.514103	0.514103
22	22	0.269981	0.471397	0.471397
23	23	0.282252	0.427555	0.427555
24	24	0.294524	0.382683	0.382683
25	25	0.306796	0.33689	0.33689
26	26	0.319068	0.290285	0.290285
27	27	0.33134	0.24298	0.24298
28	28	0.343612	0.19509	0.19509



2	2	0.024544	0.995185	0.995185
3	3	0.036816	0.989177	0.989177
4	4	0.049087	0.980785	0.980785
5	5	0.061359	0.970031	0.970031
6	6	0.073631	0.95694	0.95694
7	7	0.085903	0.941544	0.941544
8	8	0.098175	0.92388	0.92388
9	9	0.110447	0.903989	0.903989
10	10	0.122718	0.881921	0.881921
11	11	0.13499	0.857729	0.857729
12	12	0.147262	0.83147	0.83147
13	13	0.159534	0.803208	0.803208
14	14	0.171806	0.77301	0.77301
15	15	0.184078	0.740951	0.740951
16	16	0.19635	0.707107	0.707107
17	17	0.208621	0.671559	0.671559
18	18	0.220893	0.634393	0.634393
19	19	0.233165	0.595699	0.595699
20	20	0.245437	0.55557	0.55557
21	21	0.257709	0.514103	0.514103
22	22	0.269981	0.471397	0.471397
23	23	0.282252	0.427555	0.427555
24	24	0.294524	0.382683	0.382683
25	25	0.306796	0.33689	0.33689
26	26	0.319068	0.290285	0.290285
27	27	0.33134	0.24298	0.24298
28	28	0.343612	0.19509	0.19509

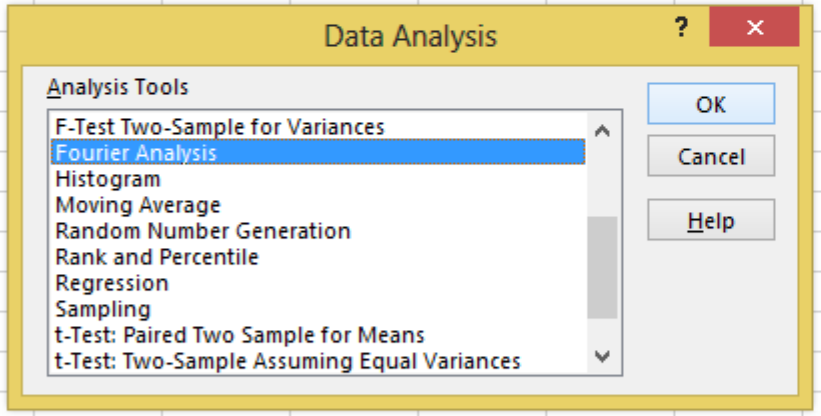
Book2 - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW ACROBAT

D1 0.998795456205172

	A	B	C	D
1	1	0.012272	0.998795	0.998795
2	2	0.024544	0.995185	0.995185
3	3	0.036816	0.989177	0.989177
4	4	0.049087	0.980785	0.980785
5	5	0.061359	0.970031	0.970031
6	6	0.073631	0.95694	0.95694
7	7	0.085903	0.941544	0.941544
8	8	0.098175	0.92388	0.92388
9	9	0.110447	0.903989	0.903989
10	10	0.122718	0.881921	0.881921
11	11	0.13499	0.857729	0.857729
12	12	0.147262	0.83147	0.83147
13	13	0.159534	0.803208	0.803208
14	14	0.171806	0.77301	0.77301
15	15	0.184078	0.740951	0.740951
16	16	0.19635	0.707107	0.707107
17	17	0.208621	0.671559	0.671559
18	18	0.220893	0.634393	0.634393
19	19	0.233165	0.595699	0.595699
20	20	0.245437	0.55557	0.55557
21	21	0.257709	0.514103	0.514103
22	22	0.269981	0.471397	0.471397
23	23	0.282252	0.427555	0.427555
24	24	0.294524	0.382683	0.382683
25	25	0.306796	0.33689	0.33689
26	26	0.319068	0.290285	0.290285
27	27	0.33134	0.24298	0.24298
28	28	0.343612	0.19509	0.19509

Select Fourier Analysis in the Data Analysis menu.



Sheet1

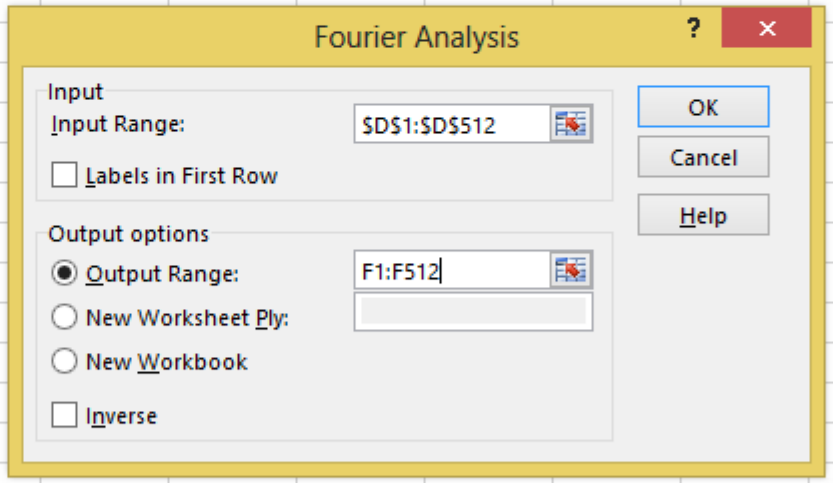
Book2 - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW ACROBAT

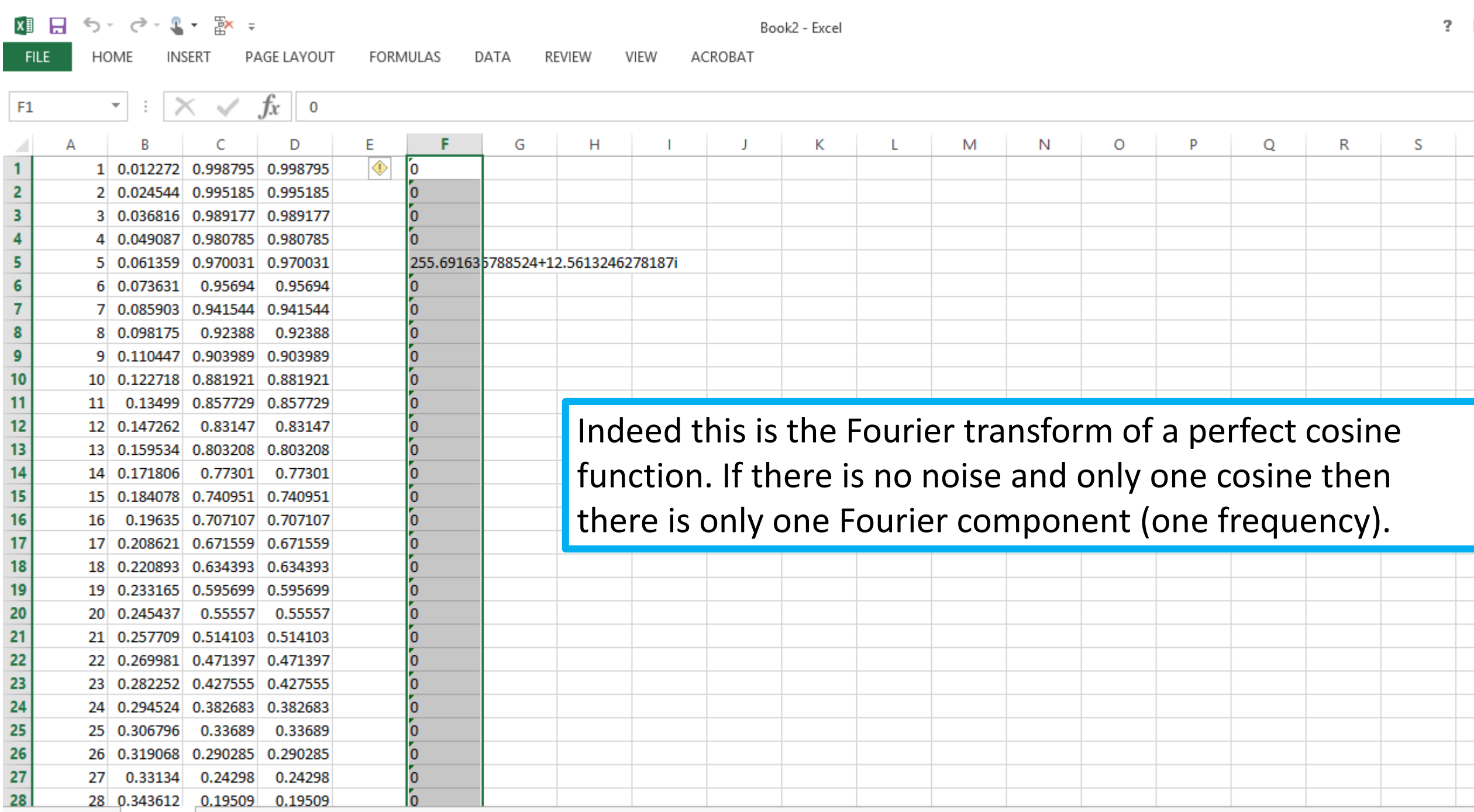
D1 0.998795456205172

	A	B	C	D
1	1	0.012272	0.998795	0.998795
2	2	0.024544	0.995185	0.995185
3	3	0.036816	0.989177	0.989177
4	4	0.049087	0.980785	0.980785
5	5	0.061359	0.970031	0.970031
6	6	0.073631	0.95694	0.95694
7	7	0.085903	0.941544	0.941544
8	8	0.098175	0.92388	0.92388
9	9	0.110447	0.903989	0.903989
10	10	0.122718	0.881921	0.881921
11	11	0.13499	0.857729	0.857729
12	12	0.147262	0.83147	0.83147
13	13	0.159534	0.803208	0.803208
14	14	0.171806	0.77301	0.77301
15	15	0.184078	0.740951	0.740951
16	16	0.19635	0.707107	0.707107
17	17	0.208621	0.671559	0.671559
18	18	0.220893	0.634393	0.634393
19	19	0.233165	0.595699	0.595699
20	20	0.245437	0.55557	0.55557
21	21	0.257709	0.514103	0.514103
22	22	0.269981	0.471397	0.471397
23	23	0.282252	0.427555	0.427555
24	24	0.294524	0.382683	0.382683
25	25	0.306796	0.33689	0.33689
26	26	0.319068	0.290285	0.290285
27	27	0.33134	0.24298	0.24298
28	28	0.343612	0.19509	0.19509

Type in the input range, which is column D. Note that you should explicitly give the numbers and these must be a multiple of 2. I have used 512. The output range is in column F (my choice).



Sheet1



	A	B	C	D	E	F
1	1	0.012272	0.998795	0.998795		0
2	2	0.024544	0.995185	0.995185		0
3	3	0.036816	0.989177	0.989177		0
4	4	0.049087	0.980785	0.980785		0
5	5	0.061359	0.970031	0.970031		255.691635788524+12.5613246278187i
6	6	0.073631	0.95694	0.95694		0
7	7	0.085903	0.941544	0.941544		0
8	8	0.098175	0.92388	0.92388		0
9	9	0.110447	0.903989	0.903989		0
10	10	0.122718	0.881921	0.881921		0
11	11	0.13499	0.857729	0.857729		0
12	12	0.147262	0.83147	0.83147		0
13	13	0.159534	0.803208	0.803208		0
14	14	0.171806	0.77301	0.77301		0
15	15	0.184078	0.740951	0.740951		0
16	16	0.19635	0.707107	0.707107		0
17	17	0.208621	0.671559	0.671559		0
18	18	0.220893	0.634393	0.634393		0
19	19	0.233165	0.595699	0.595699		0
20	20	0.245437	0.55557	0.55557		0
21	21	0.257709	0.514103	0.514103		0
22	22	0.269981	0.471397	0.471397		0
23	23	0.282252	0.427555	0.427555		0
24	24	0.294524	0.382683	0.382683		0
25	25	0.306796	0.33689	0.33689		0
26	26	0.319068	0.290285	0.290285		0
27	27	0.33134	0.24298	0.24298		0
28	28	0.343612	0.19509	0.19509		0