

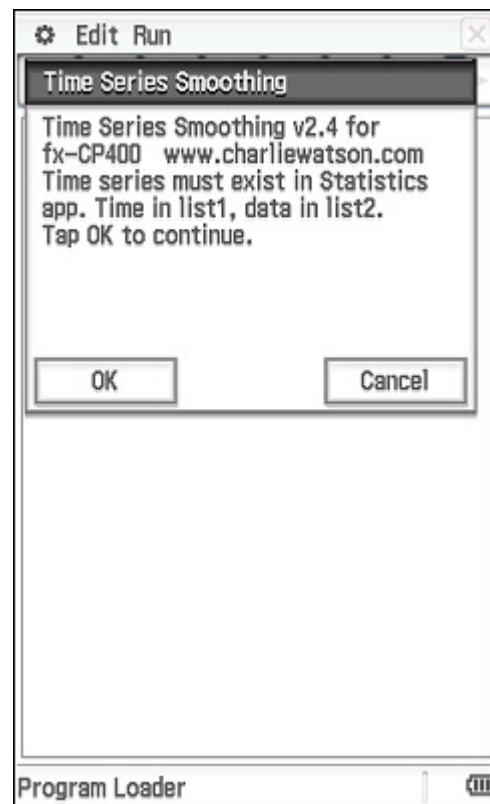
Before starting this activity you will need the small, free program **TimeSII**, from www.charliewatson.com/classpad. Download and installation instructions are available on the same site.

Enter the time series data shown in list1 and list2.

	list1	list2	list3
1	1	560	
2	2	624	
3	3	580	
4	4	420	
5	5	520	
6	6	600	
7	7	564	
8	8	396	
9	9	496	
10	10	600	
11	11	560	
12	12	380	
13			
14			
15			
16			
17			
18			

Open the Program app, select the program named **TimeSII** and tap the play button.

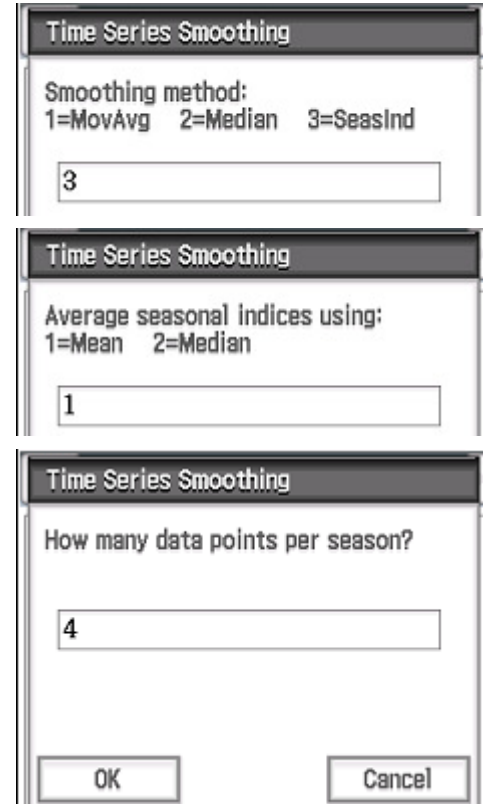
Note the introductory screen.



Enter 1, 2 or 3 to pick smoothing method, then OK. In this example 3, to use seasonal indices calculated using the average percentage method.

Enter 1 or 2 to pick mean or median averaging of seasonal indices, then OK.

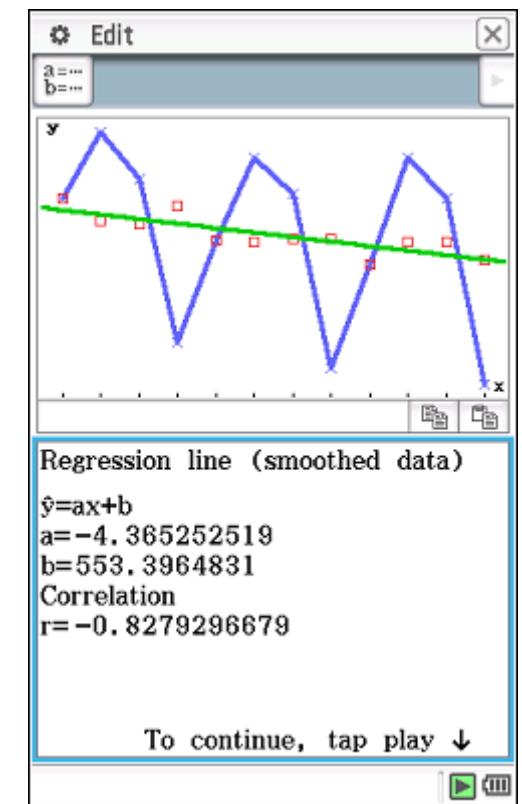
Enter the required data points per season and tap OK - 4 in this case.



The program smooths the data, plots the original data (blue xy-plot), the smoothed data (red squares) and the regression line through the smoothed data (green line).

Regression coefficients are also displayed.

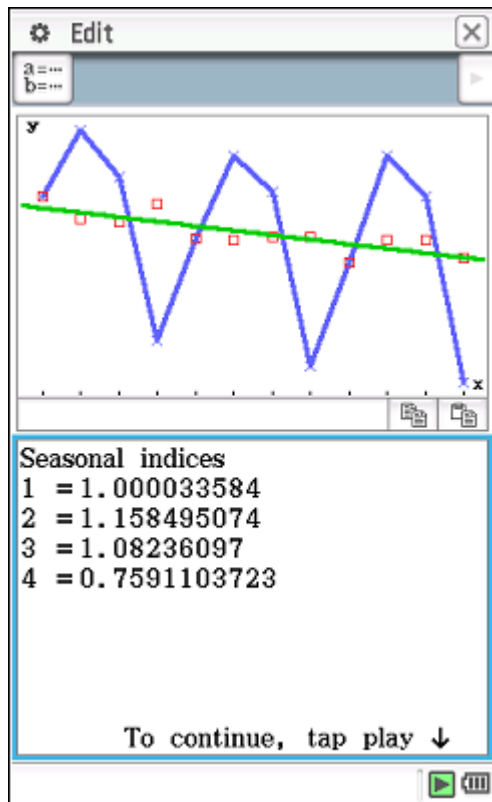
Tap the green play button to continue.



Seasonal indices (or residuals depending on smoothing method) are then calculated and displayed.

Tap the green play button to continue.

Enter an x-value to forecast, otherwise to finish the program tap OK.



Time Series Smoothing

To forecast future value enter time or to end leave blank and tap OK

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OK Cancel

Forecast?

The future value is forecast, including seasonal adjustment.

If not forecasting, then the program displays a summary of the contents of lists 3 to 6 now in the Statistics app.

Back in the Statistics app, the calculated values can be seen.

It's a good idea to acquaint yourself with a method to calculate all these values by hand.

Forecast

x= 14
 \hat{y} = 492.2829479
 SI= 1.158495074
 FV= 570.3073701

To continue, tap play ↓

Program finished
 Lists now contain
 3: Smoothed data
 4: Indices
 5: Seasonal indices

	list2	list3	list4	list5
1	560	560	1.03	1
2	624	539	1.14	1.16
3	580	536	1.06	1.08
4	420	553	0.77	0.76
5	520	520	1	1
6	600	518	1.15	1.16
7	564	521	1.08	1.08
8	396	522	0.76	0.76
9	496	496	0.97	1
10	600	518	1.18	1.16
11	560	517	1.1	1.08
12	380	501	0.75	0.76
13				
14				
15				
16				
17				
18				

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