

Before starting this activity you will need the small, free program **mavll**, from www.charliewatson.com/classpad.

Enter the time series data shown in list1 and list2.

Start the Program app, select the program **mavll** and tap the play button.

Note the introductory screen.

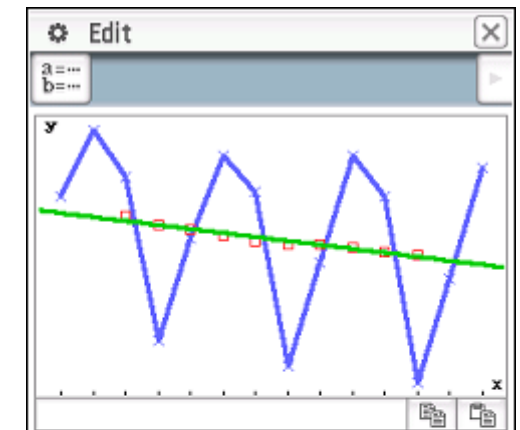
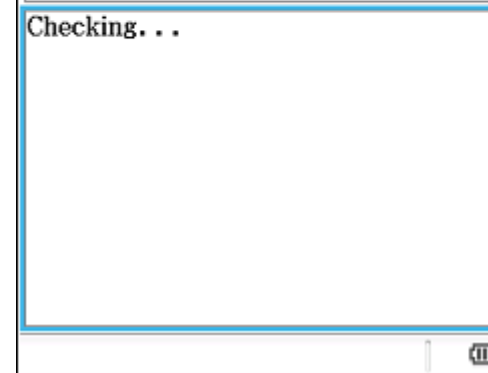
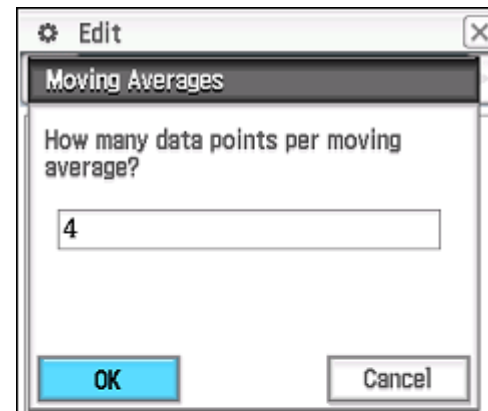
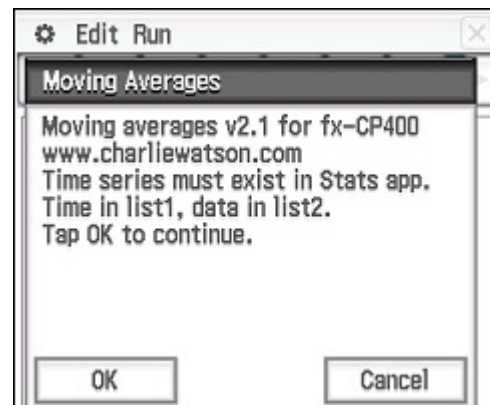
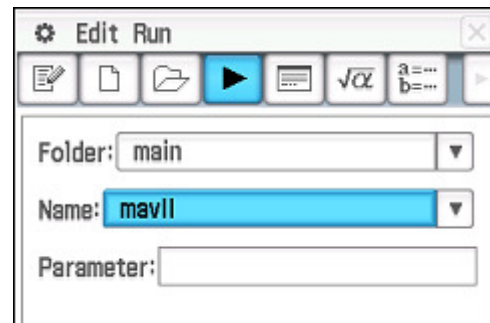
Enter the required moving average and tap OK.

The program calculates the required moving averages, plots the original data (blue xy-plot), the moving averages (red squares) and the regression line for the moving averages (green line).

Regression coefficients are also displayed.

Tap the green play button to continue.

	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	13	480	
14	14	588	
15			
16			
17			
18			



Eqn of line (t v MA)

$$\hat{y} = ax + b$$

$a = -3.854545455$
 $b = 548.0090909$
 Correlation
 $r = -0.9768997473$

To continue, tap play ↓

Residuals are calculated and seasonal components displayed.

Tap the green play button to continue.

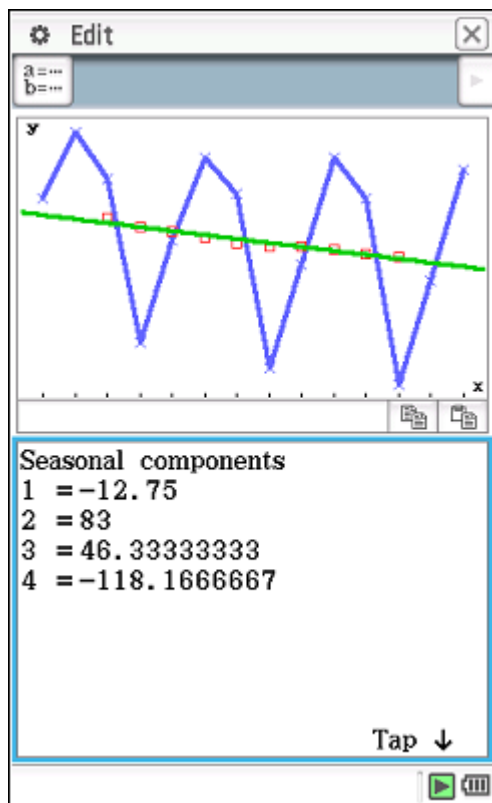
If a prediction is required, enter 1, otherwise 2 for no and tap OK.

If predicting, enter the x-value for the prediction and tap OK.

The future value is predicted, including seasonal adjustment.

If not predicting, 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.



Edit

Moving Averages

Make a prediction? 1=Yes 2=No

1

OK Cancel

Edit

Predict

x value

15

OK Cancel

Prediction

x= 15
 \hat{y} = 490.1909091
 SC= 46.33333333
 FV= 536.5242424

Tap ↓

Program finished
 Lists now contain
 3: Mov Avs
 4: Residuals
 5: Av residuals
 6: Seas adjusted

Edit Calc SetGraph

	list2	list3	list4	list5
1	560	0	0	-13
2	624	0	0	83
3	580	541	39	46.3
4	420	533	-113	-120
5	520	528	-8	-13
6	600	523	77	83
7	564	517	47	46.3
8	396	514	-118	-120
9	496	514	-18	-13
10	600	511	89	83
11	560	507	53	46.3
12	380	504	-120	-120
13	480	0	0	-13
14	588	0	0	83
15				
16				
17				
18				

Calc

[1] = 1

Deg Auto Decimal