USER'S MANUAL

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1.0 General Information

This system contains two generic solvers: Polynomial Regression and Quadratic Spline Interpolation, and one simplex solver for assessing the value of supply chain management.

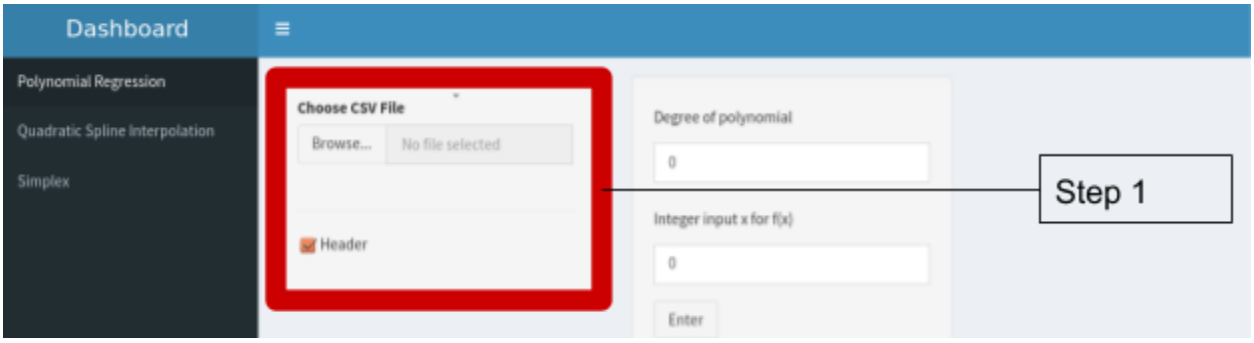
2.0 Generic Solvers

2.1 Polynomial Regression

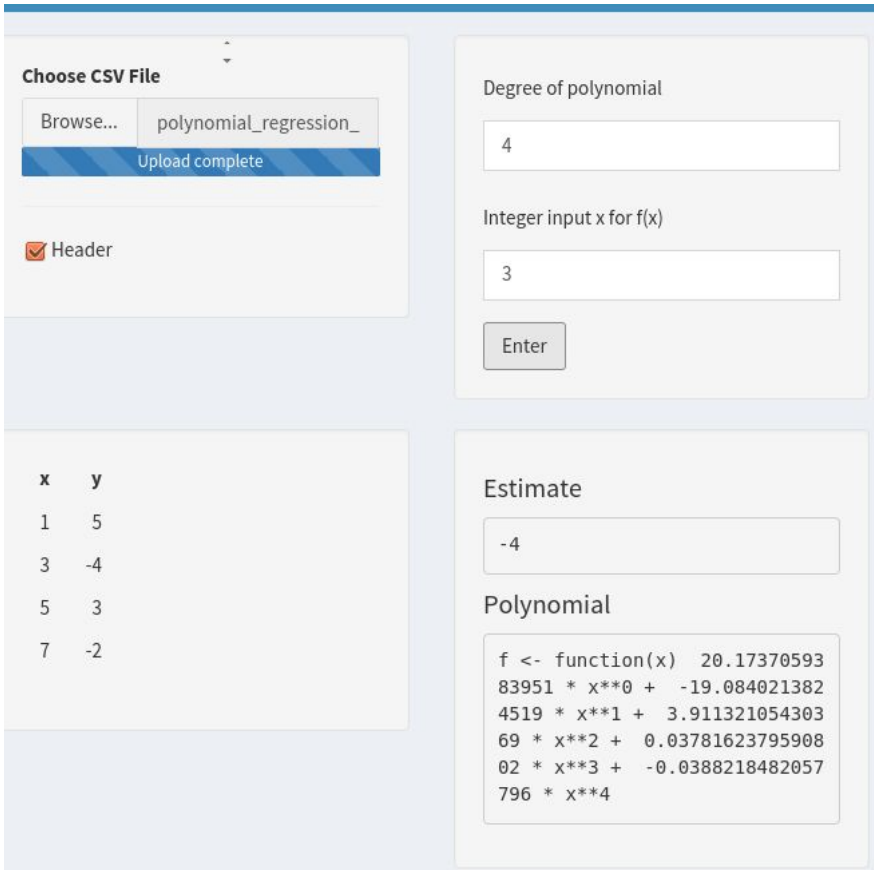
Step 1. Upload a CSV file.

The format of the csv should be as follows, wherein the first line will contain the column names, the following lines will contain the data points, then at the last datapoint, press enter to create a new line.

```
1  x,y
2  1,5
3  3,-4
4  5,3
5  7,-2
6
```



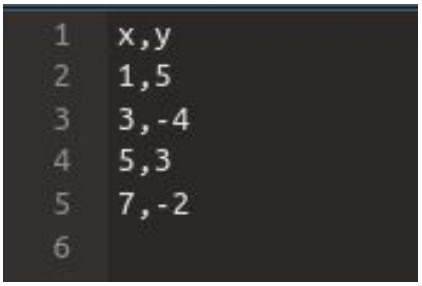
Step 2. Insert the degree of the polynomial and the integer input for the function estimate. Then, press enter to show results.

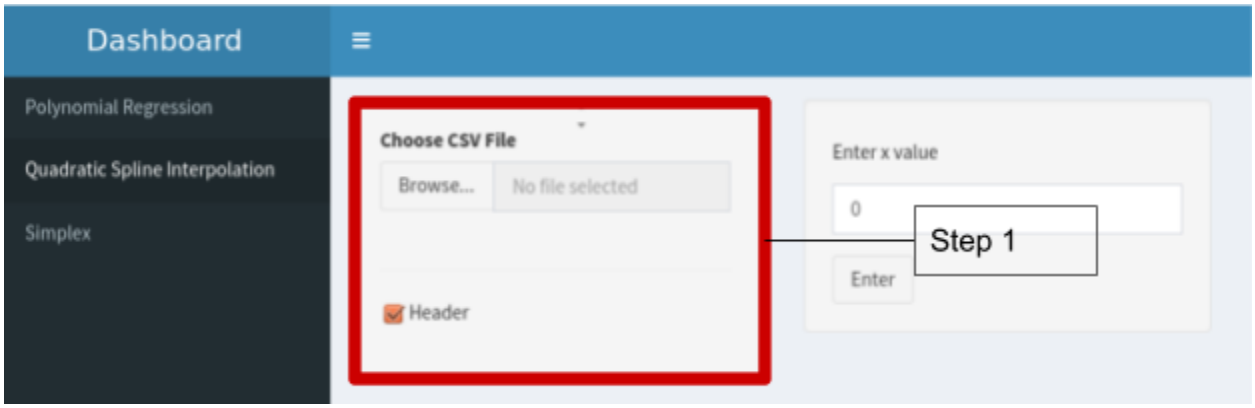


2.1 Quadratic Spline Interpolation

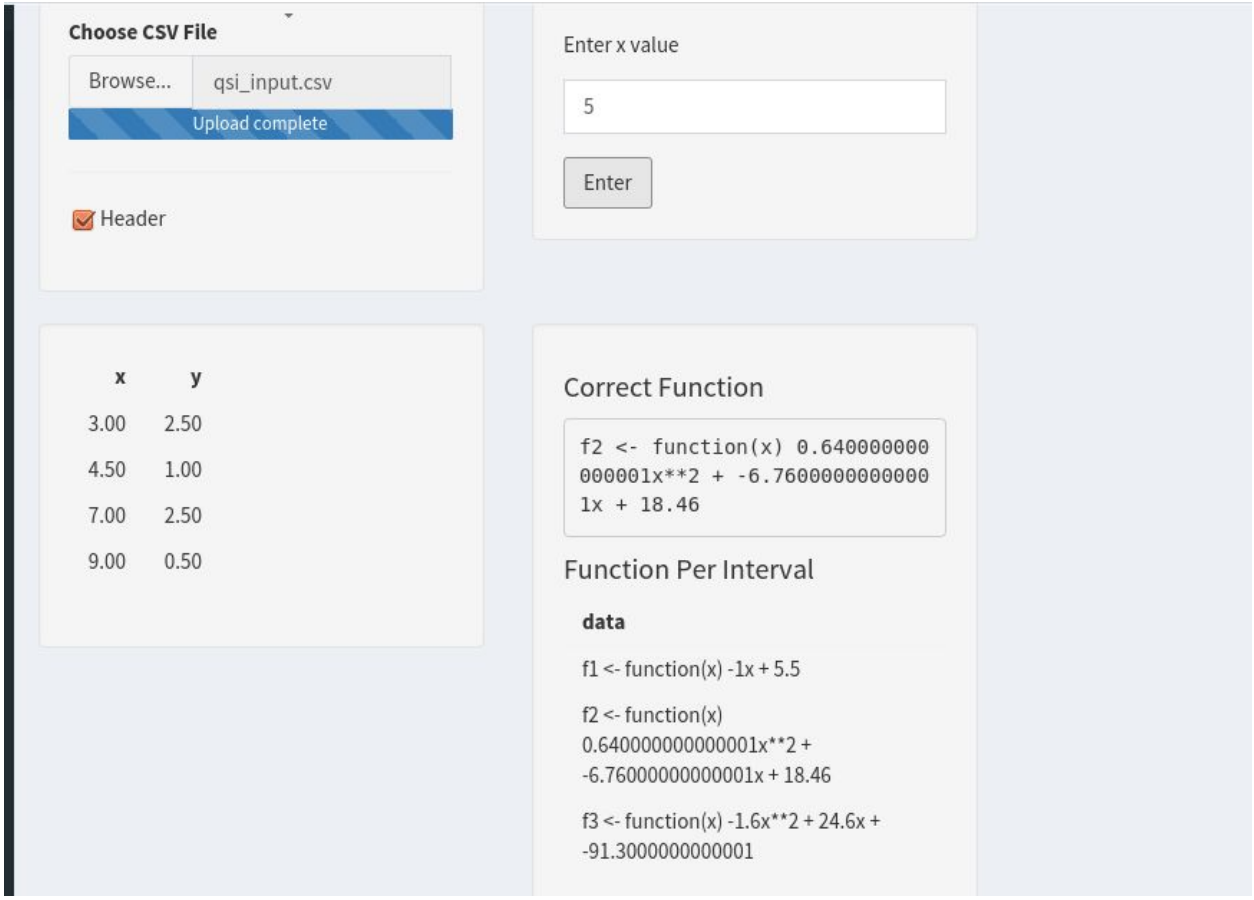
Step 1. Upload a CSV file.

The format of the csv should be as follows, wherein the first line will contain the column names, the following lines will contain the data points, then at the last datapoint, press enter to create a new line.





Step 2. Insert the x value for quadratic spline. Then, press enter to show results.

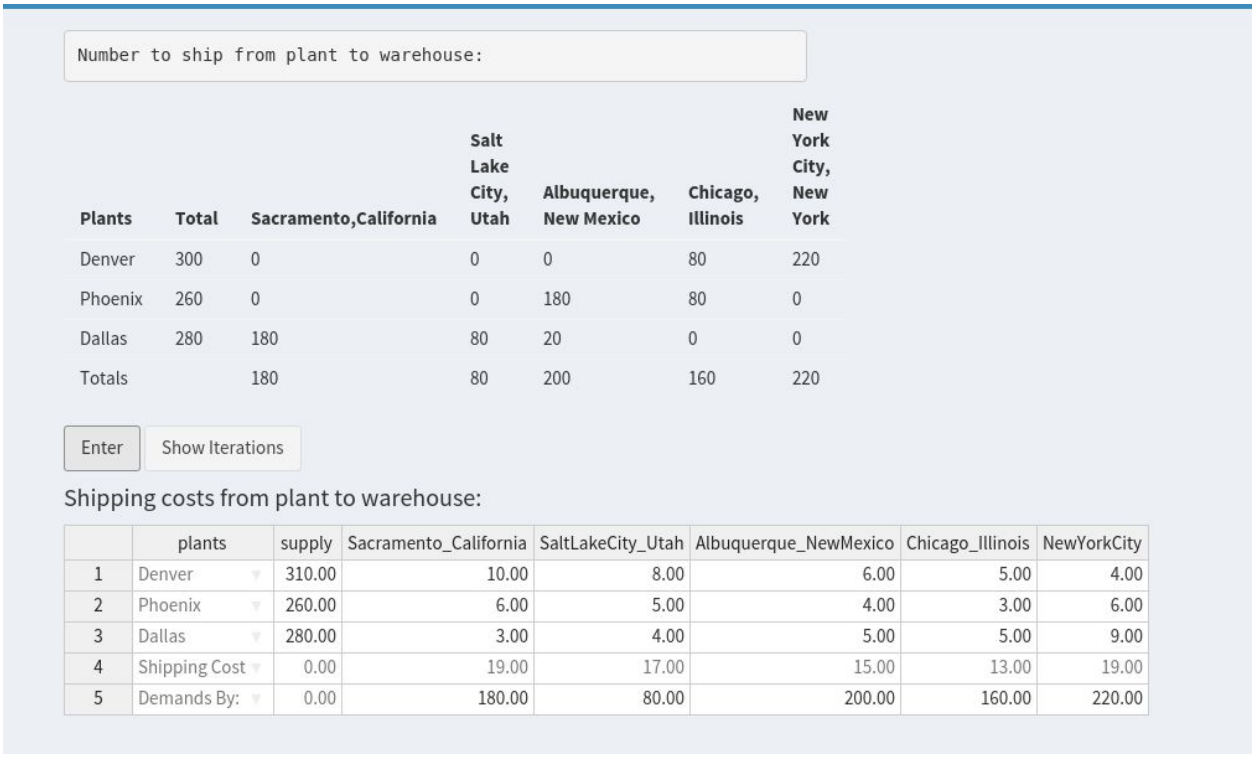


3.0 Simplex

Step 1. Insert the values on the spreadsheet provided.

	plants	supply	Sacramento_California	SaltLakeCity_Utah	Albuquerque_NewMexico	Chicago_Illinois	NewYorkCity
1	Denver	310.00	10.00	8.00	6.00	5.00	4.00
2	Phoenix	260.00	6.00	5.00	4.00	3.00	6.00
3	Dallas	280.00	3.00	4.00	5.00	5.00	9.00
4	Shipping Cost	0.00	19.00	17.00	15.00	13.00	19.00
5	Demands By:	0.00	180.00	80.00	200.00	160.00	220.00

Step 2. Click "Enter" to save changes. An output of the optimized number to ship from plant to warehouse will appear.



Plants	Total	Sacramento,California	Salt Lake City, Utah	Albuquerque, New Mexico	Chicago, Illinois	New York City, New York
Denver	300	0	0	0	80	220
Phoenix	260	0	0	180	80	0
Dallas	280	180	80	20	0	0
Totals		180	80	200	160	220

	plants	supply	Sacramento_California	SaltLakeCity_Utah	Albuquerque_NewMexico	Chicago_Illinois	NewYorkCity
1	Denver	310.00	10.00	8.00	6.00	5.00	4.00
2	Phoenix	260.00	6.00	5.00	4.00	3.00	6.00
3	Dallas	280.00	3.00	4.00	5.00	5.00	9.00
4	Shipping Cost	0.00	19.00	17.00	15.00	13.00	19.00
5	Demands By:	0.00	180.00	80.00	200.00	160.00	220.00

Step 3. If you wish to view the iterations made by the simplex function, click "Show Iterations". A blank window will appear with a small button "Next". To show the iterations on that window, click "Next".

Simplex Iterations

x1	x2	x3	x4	x5	x6	x7	x8	x9	x10	x11	x12	x13	x14	x1
1	1	1	1	1	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	1	1	1	1	1	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	1	1	1	1	
-1	0	0	0	0	-1	0	0	0	0	-1	0	0	0	
0	-1	0	0	0	0	-1	0	0	0	0	-1	0	0	
0	0	-1	0	0	0	0	-1	0	0	0	0	-1	0	
0	0	0	-1	0	0	0	0	-1	0	0	0	0	-1	
0	0	0	0	-1	0	0	0	0	-1	0	0	0	0	
10	8	6	5	4	6	5	4	3	6	3	4	5	5	

Next

Step 4. By clicking “Next”, you will be able to see the following iterations made. This table is scrollable so you can see the other columns.

Note: Every time you make changes to the spreadsheet, always click “Enter” to save the changes you made.