Console

n	x0	x1	x2
	x3	y	dx0
1	0.5000000000	0.6065306597	0.5452392119
	0.5797030949	0.5672989893	0.0672989893
2	0.5672989893	0.5670549937	0.5671933695
	0.5671148891	0.5671432912	-0.0001556981
3	0.5671432912	0.5671432900	0.5671432907
	0.5671432903	0.5671432904	-0.0000000008

The solution of this equation after 3 Iterations is 0.5671432904