

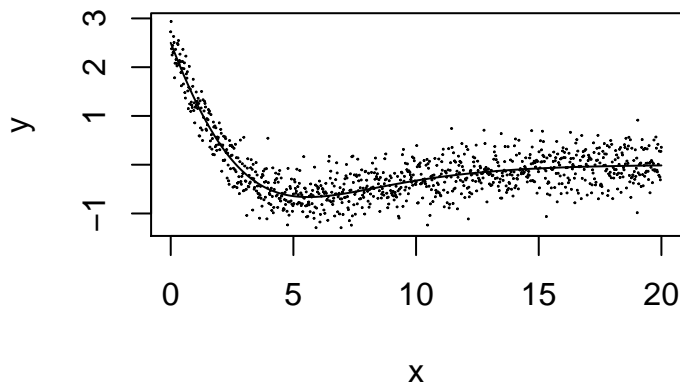
Homework 1

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Problem 1

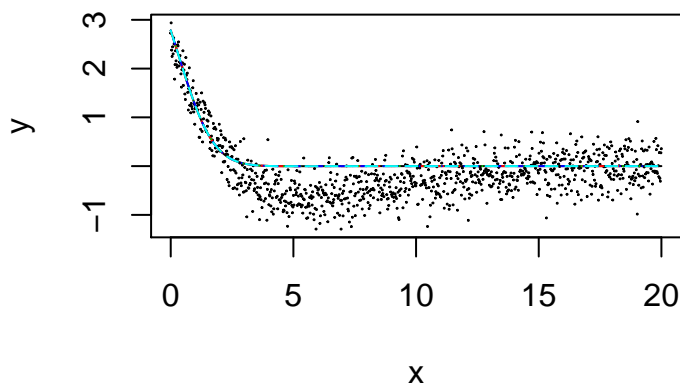
a).



b).

For different starting values,

	theta0	theta1	theta2	theta3	SSE	n.iter
(4.1, -1.4, 0.65, 0.35)	3.648	-0.852	0.312	1.388	205.451	604
(20, 20, 20, 20)	3.464	-0.499	0.276	1.628	206.170	2037
(-20, -20, -20, -20)	10.172	0.642	2.587	1.246	211.174	2910
(0, 0, 0, 0)	3.978	-0.766	0.365	1.554	207.696	124
(4, -1.5, 0.6, 0.4)	9.597	0.069	4.337	0.893	239.218	1332



theta0 the	ta1 the	ta2 the	ta3	SSE n.	iter	
alpha=0.1	4.096	-1.556	0.616	0.403	96.144	874
alpha=0.2	4.223	-1.619	0.655	0.409	96.253	3547

theta0 the	ta1 the	ta2 the	ta3	SSE n.	iter	
alpha=0.3	4.061	-1.581	0.521	0.440	97.542	3917
alpha=0.4	3.872	-1.068	0.348	1.311	205.032	3949
alpha=0.5	3.894	-1.081	0.406	1.206	203.878	396
alpha=0.6	2.960	0.145	0.202	1.905	205.649	4277
alpha=0.7	3.035	0.393	0.240	1.919	205.778	3540
alpha=0.8	4.270	-0.026	2.900	16.801	415.194	32
alpha=0.9	3.169	0.229	0.267	1.818	205.879	2566

	theta0	theta1	theta2	theta3	SSE	n.iter
m=1	4.080	-1.415	0.728	0.996	209.587	19
m=10	4.146	-1.353	0.669	1.489	226.003	2290
m=100	4.105	-1.564	0.641	0.400	96.144	1458
m=200	4.061	-1.532	0.628	0.398	96.204	55
m=500	4.073	-1.549	0.616	0.403	96.138	373
m=1000	4.065	-1.546	0.615	0.403	96.141	151