

Assignment 3

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Description:

There is an R file for cubic spline function and the other one for data testing. The dataset comes from <http://data.princeton.edu/eco572/datasets/cohhpop.dat>. Since the “cv.lm” in library “DAAG” has a little bit trouble in obtaining RSS, I use “cv.glm” function in library “boot”, which should be the same thing.

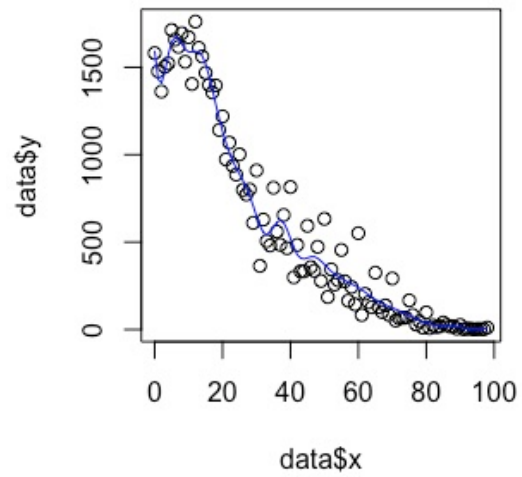
1. Degree of freedom & RSS

	RSS	DF	ORDER
[1,]	20289.95	94	20
[2,]	15161.98	93	19
[3,]	13110.84	92	18
[4,]	13594.55	91	17
[5,]	13405.98	90	15
[6,]	12767.11	89	16
[7,]	12515.65	88	14
[8,]	12529.68	87	12
[9,]	12468.93	86	13
[10,]	12472.10	85	11
[11,]	12464.42	84	9
[12,]	12353.43	83	10
[13,]	12402.93	82	7
[14,]	12270.34	81	8
[15,]	12184.29	80	6
[16,]	12258.34	79	3
[17,]	11726.90	78	5
[18,]	11705.00	77	4
[19,]	11648.15	76	2
[20,]	11490.19	75	1

2. Fitted values & Residuals

	optimal_spline_fittedvalues	optimal_spline_fittedvalues
1	1594.764	1594.764
2	1432.159	1432.159
3	1410.064	1410.064
4	1474.260	1474.260
...		
96	1.084452	1.084452
97	2.496869	2.496869
98	5.337988	5.337988
99	9.561592	9.561592

3. Graph: fitted values \$ points



4. Graph: degree of freedom & RSS

