

Console

```
--> exec('C:\data\work_igre\sci-lab_routines\multiple variable linear regressin analysis
k.sce', -1)
at line 40 of executed file C:\data\work_igre\sci-lab_routines\multiple variable linear
analysis from book.sce
```

Inconsistent row/column dimensions.

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Warning :

matrix is close to singular or badly scaled. rcond = 8.7651E-15

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Multiple linear regression=====

Table of coefficients-----

i	b(i)	se(b(i))	Lower	Upper	t0	H0:b(i)=0
0	-0.473501	0.505652	-1.30955	0.36255	-0.936417	do not reject
1	0.0144647	0.00859658	0.000251049	0.0286784	1.68261	reject
2	-0.00151355	0.000627177	-0.00255053	-0.000476571	-2.41328	reject
3	-7.56304e-07	1.62728e-06	-3.44686e-06	1.93425e-06	-0.464767	do not reject
4	-2.24289e-06	1.58926e-06	-4.87059e-06	3.84806e-07	-1.41128	do not reject
5	0.293853	0.122661	0.0910451	0.496662	2.39566	reject
6	0.224022	0.0677309	0.112035	0.336009	3.30753	reject
7	1.5276	0.346095	0.955362	2.09984	4.41382	reject
8	-0.124503	0.0537642	-0.213397	-0.0356082	-2.31571	reject

t_alpha/2 = 1.65341

Table of fitted values and errors

i	y(i)	yh(i)	e(i)	C.I. for Y	C.I. for Ypred
1	1.49356	1.24488	0.248678	1.21412	1.27564
2	1.35883	1.22667	0.132161	1.21381	1.23953
3	1.19251	1.0957	0.0968104	1.07087	1.12054

4	1.24662	1.13295	0.113662	1.11153	1.15438	1.05756	1.20835
5	1.18075	1.07845	0.102299	1.06212	1.09478	1.00315	1.15375
6	1.33082	1.18662	0.144199	1.17092	1.20232	1.11133	1.26191
7	1.20425	1.10499	0.099265	1.0824	1.12757	1.02956	1.18041
8	1.22483	1.16018	0.0646531	1.14676	1.17359	1.08492	1.23543
9	1.35495	1.26656	0.0883878	1.25402	1.27911	1.19132	1.34181
10	1.44845	1.32955	0.118897	1.31795	1.34116	1.25432	1.40479
11	1.18494	1.11293	0.0720103	1.09517	1.1307	1.03761	1.18826
12	1.28313	1.18455	0.0985803	1.16977	1.19933	1.10927	1.25982
13	1.18468	1.11331	0.0713682	1.09727	1.12935	1.03801	1.1886
14	1.45569	1.34154	0.114151	1.33039	1.3527	1.26632	1.41677
15	1.35637	1.2372	0.119167	1.22531	1.2491	1.16197	1.31244
16	1.43968	1.3107	0.128978	1.28864	1.33277	1.23529	1.38611
17	1.34335	1.23239	0.110954	1.20273	1.26206	1.15679	1.308
18	1.21929	1.2305	-0.0112103	1.21014	1.25086	1.15513	1.30587
19	1.22169	1.15023	0.0714656	1.13565	1.16481	1.07496	1.2255
20	1.34313	1.28925	0.0538846	1.27419	1.30431	1.21397	1.36453
21	1.30873	1.30815	0.000573695	1.29109	1.32521	1.23284	1.38346
22	1.38855	1.27315	0.115404	1.26087	1.28542	1.1979	1.34839
23	1.22066	1.14301	0.077659	1.13229	1.15373	1.06778	1.21823
24	1.33312	1.24717	0.0859496	1.23255	1.26178	1.17189	1.32244
25	1.39634	1.30493	0.0914087	1.28813	1.32173	1.22963	1.38024
26	1.42733	1.35031	0.0770183	1.33442	1.36619	1.27502	1.4256
27	1.29798	1.23767	0.0603101	1.22663	1.2487	1.16244	1.31289
28	1.29758	1.23767	0.0599158	1.22663	1.2487	1.16244	1.31289
29	1.28711	1.2265	0.0606095	1.21443	1.23857	1.15126	1.30174
30	1.34975	1.26966	0.0800935	1.25799	1.28133	1.19442	1.34489
31	1.2973	1.20747	0.0898322	1.19367	1.22126	1.1322	1.28273
32	1.27488	1.27947	-0.00459411	1.26401	1.29493	1.20418	1.35476
33	1.21432	1.17645	0.0378745	1.1675	1.1854	1.10124	1.25166
34	1.29899	1.19756	0.101426	1.1871	1.20803	1.12234	1.27278
35	1.38745	1.2878	0.099643	1.27609	1.29952	1.21257	1.36304
36	1.29268	1.22376	0.0689276	1.21119	1.23632	1.14851	1.299
37	1.28408	1.22257	0.0615115	1.21253	1.2326	1.14735	1.29778
38	1.37694	1.27853	0.0984115	1.26752	1.28953	1.2033	1.35376
39	1.19101	1.13662	0.0543942	1.11895	1.15429	1.0613	1.21194
40	1.32738	1.31813	0.00925018	1.27655	1.35972	1.24211	1.39416
41	1.28417	1.21749	0.0666861	1.2087	1.22627	1.14228	1.29269
42	1.19764	1.17002	0.0276211	1.15025	1.18979	1.09466	1.24539
43	1.2823	1.23364	0.048657	1.22351	1.24377	1.15842	1.30886
44	1.41536	1.37015	0.0452085	1.35467	1.38564	1.29487	1.44544
45	1.16233	1.15058	0.0117583	1.12968	1.17147	1.07519	1.22596
46	1.33274	1.25295	0.0797834	1.2437	1.26221	1.17774	1.32816
47	1.35048	1.30439	0.046092	1.29337	1.31541	1.22916	1.37962
48	1.04075	1.01564	0.0251156	0.995195	1.03608	0.940263	1.09101
49	1.14301	1.13093	0.0120747	1.1126	1.14926	1.0556	1.20627

50	1.31282	1.24267	0.0701423	1.22743	1.25792	1.16739	1.31796
51	1.12271	1.14103	-0.0183179	1.12052	1.16154	1.06565	1.21641
52	1.27693	1.23479	0.0421364	1.22267	1.24691	1.15955	1.31003
53	1.34655	1.26931	0.077245	1.25915	1.27947	1.19409	1.34452
54	1.29233	1.23375	0.05858	1.21916	1.24833	1.15847	1.30902
55	1.32011	1.26677	0.0533403	1.25583	1.27772	1.19155	1.342
56	1.31352	1.24738	0.0661387	1.23936	1.2554	1.17218	1.32258
57	1.28373	1.26398	0.0197503	1.2542	1.27377	1.18877	1.3392
58	1.2864	1.26058	0.0258199	1.24723	1.27394	1.18533	1.33584
59	1.25931	1.21178	0.0475383	1.20026	1.22329	1.13654	1.28701
60	1.2334	1.20309	0.0303102	1.19237	1.21381	1.12786	1.27831
61	1.23276	1.20263	0.0301244	1.19191	1.21335	1.12741	1.27786
62	1.10472	1.12493	-0.020216	1.10532	1.14455	1.04958	1.20029
63	1.28063	1.24169	0.0389365	1.23242	1.25096	1.16648	1.3169
64	1.26164	1.23244	0.029204	1.22327	1.24161	1.15723	1.30764
65	1.28797	1.21082	0.077153	1.20101	1.22063	1.1356	1.28603
66	1.23492	1.20969	0.0252233	1.19632	1.22307	1.13444	1.28495
67	1.38705	1.35942	0.0276238	1.34634	1.3725	1.28417	1.43467
68	1.29028	1.23861	0.0516708	1.2265	1.25072	1.16337	1.31385
69	1.33215	1.27019	0.0619533	1.25923	1.28115	1.19497	1.34542
70	1.30834	1.26355	0.0447959	1.2535	1.2736	1.18833	1.33877
71	1.28139	1.23724	0.044151	1.22592	1.24856	1.16201	1.31247
72	0.993683	1.04116	-0.0474794	1.01712	1.0652	0.965707	1.11662
73	1.38031	1.36022	0.020085	1.34595	1.3745	1.28495	1.43549
74	1.28245	1.23198	0.0504667	1.22184	1.24212	1.15676	1.3072
75	1.28627	1.27615	0.0101196	1.26254	1.28976	1.20089	1.35141
76	1.34963	1.22511	0.124519	1.21471	1.23552	1.14989	1.30033
77	1.25025	1.23224	0.0180087	1.22157	1.24292	1.15702	1.30747
78	1.22871	1.21431	0.0144019	1.19372	1.2349	1.13893	1.28969
79	1.26169	1.21133	0.0503578	1.19717	1.22549	1.13606	1.28659
80	1.27804	1.24123	0.0368048	1.22978	1.25268	1.166	1.31646
81	1.20263	1.2033	-0.000673304	1.19164	1.21496	1.12807	1.27853
82	1.22767	1.21177	0.0158983	1.1994	1.22414	1.13653	1.28701
83	1.29866	1.24599	0.0526618	1.23316	1.25883	1.17075	1.32124
84	1.24688	1.24504	0.00184239	1.22009	1.26999	1.16956	1.32052
85	1.25886	1.26658	-0.00771256	1.25214	1.28101	1.19131	1.34185
86	1.25633	1.25862	-0.00229713	1.24135	1.27589	1.18331	1.33394
87	1.27469	1.27317	0.00151991	1.2592	1.28714	1.1979	1.34843
88	1.27956	1.23316	0.0464005	1.22248	1.24384	1.15794	1.30838
89	1.20609	1.2424	-0.0363109	1.22908	1.25572	1.16715	1.31766
90	1.00947	1.06704	-0.0575689	1.0419	1.09218	0.991555	1.14252
91	1.18404	1.18867	-0.00463169	1.1806	1.19673	1.11347	1.26387
92	1.2238	1.21009	0.0137186	1.19383	1.22634	1.13479	1.28538
93	1.31783	1.32434	-0.00651149	1.3108	1.33787	1.24908	1.39959
94	1.26103	1.26102	1.31428e-05	1.24544	1.2766	1.18573	1.3363
95	1.42734	1.42381	0.0035301	1.39543	1.45218	1.34824	1.49937

96	1.18067	1.20731	-0.0266406	1.19071	1.22392	1.13201	1.28262
97	1.35514	1.34533	0.00981277	1.33191	1.35876	1.27008	1.42059
98	1.32965	1.32249	0.00715707	1.30999	1.33499	1.24725	1.39774
99	1.29153	1.30199	-0.0104672	1.29224	1.31175	1.22678	1.37721
100	1.29417	1.30773	-0.0135654	1.29741	1.31805	1.23251	1.38295
101	1.21887	1.20897	0.00990379	1.19599	1.22195	1.13372	1.28422
102	1.01336	1.0704	-0.0570462	1.04593	1.09488	0.994938	1.14587
103	1.01378	1.0784	-0.0646272	1.05771	1.0991	1.00302	1.15378
104	1.27286	1.23998	0.0328817	1.22775	1.25222	1.16474	1.31522
105	1.06356	1.07541	-0.0118465	1.0498	1.10102	0.999915	1.1509
106	1.24854	1.21895	0.0295938	1.20421	1.23368	1.14367	1.29422
107	1.22231	1.25936	-0.0370575	1.25024	1.26848	1.18416	1.33457
108	1.23514	1.21276	0.0223715	1.19162	1.23391	1.13737	1.28815
109	1.12298	1.12688	-0.00389876	1.11341	1.14036	1.05163	1.20214
110	1.18974	1.20973	-0.0199887	1.18897	1.23048	1.13435	1.28511
111	1.27167	1.30937	-0.0376963	1.29714	1.3216	1.23413	1.38461
112	1.28799	1.3075	-0.0195109	1.29684	1.31816	1.23228	1.38272
113	1.2355	1.2538	-0.0182915	1.24501	1.26258	1.17859	1.329
114	1.24282	1.2345	0.00832132	1.22535	1.24364	1.15929	1.30971
115	1.17502	1.22227	-0.0472535	1.18208	1.26247	1.1463	1.29824
116	1.20388	1.24415	-0.0402653	1.21459	1.2737	1.16854	1.31975
117	1.33002	1.34855	-0.0185228	1.33402	1.36308	1.27328	1.42382
118	1.22043	1.24462	-0.0241899	1.23191	1.25733	1.16937	1.31987
119	1.28477	1.31717	-0.0324005	1.30292	1.33142	1.2419	1.39243
120	1.17574	1.18166	-0.00591972	1.16902	1.1943	1.10642	1.25691
121	1.22206	1.2224	-0.000344273	1.2089	1.2359	1.14715	1.29766
122	1.29338	1.32697	-0.0335844	1.31312	1.34081	1.25171	1.40223
123	1.0329	1.09015	-0.057246	1.07071	1.10958	1.01479	1.1655
124	1.00745	1.07115	-0.0636992	1.05247	1.08983	0.995807	1.14649
125	1.22059	1.22314	-0.00254455	1.20896	1.23731	1.14787	1.2984
126	1.14189	1.26599	-0.124102	1.25108	1.2809	1.19071	1.34127
127	1.03296	1.07871	-0.0457489	1.0584	1.09901	1.00333	1.15408
128	1.28705	1.27787	0.00918224	1.25904	1.2967	1.20253	1.35322
129	1.15881	1.19168	-0.0328712	1.17942	1.20394	1.11644	1.26692
130	1.1904	1.20899	-0.0185925	1.19303	1.22495	1.1337	1.28429
131	1.20544	1.19921	0.00623054	1.18783	1.2106	1.12398	1.27444
132	1.23377	1.27167	-0.0378984	1.26121	1.28214	1.19645	1.34689
133	1.06532	1.07432	-0.00899766	1.05727	1.09137	0.99901	1.14963
134	1.06551	1.02976	0.035751	1.01053	1.04899	0.954405	1.10511
135	1.16032	1.24288	-0.0825537	1.23293	1.25282	1.16766	1.31809
136	1.23677	1.27526	-0.0384905	1.26476	1.28575	1.20003	1.35048
137	1.17852	1.20967	-0.0311488	1.1936	1.22575	1.13438	1.28497
138	1.21415	1.19535	0.0188048	1.17604	1.21465	1.11999	1.2707
139	1.15121	1.2021	-0.0508952	1.18729	1.21691	1.12683	1.27738
140	1.17354	1.17613	-0.00259062	1.15828	1.19399	1.10081	1.25146
141	1.08382	1.09601	-0.0121852	1.07822	1.1138	1.02068	1.17133

142	1.18936	1.23015	-0.0407879	1.21951	1.24078	1.15492	1.30537
143	1.22999	1.26762	-0.0376326	1.25479	1.28046	1.19238	1.34287
144	1.2028	1.23102	-0.028218	1.21888	1.24315	1.15578	1.30625
145	1.20238	1.27319	-0.0708061	1.24605	1.30033	1.19765	1.34872
146	1.18909	1.23109	-0.0420012	1.22117	1.24101	1.15588	1.30631
147	1.1029	1.1825	-0.0796019	1.16266	1.20234	1.10714	1.25786
148	1.10683	1.15519	-0.0483591	1.14105	1.16934	1.07993	1.23046
149	1.19436	1.24898	-0.054615	1.23862	1.25934	1.17376	1.3242
150	1.10554	1.15655	-0.0510086	1.14133	1.17177	1.08127	1.23183
151	1.21985	1.24192	-0.0220629	1.23093	1.2529	1.16669	1.31714
152	1.17854	1.22387	-0.0453255	1.21074	1.237	1.14861	1.29912
153	1.17829	1.2161	-0.037809	1.2013	1.23091	1.14082	1.29138
154	1.19697	1.23512	-0.0381501	1.22261	1.24763	1.15988	1.31036
155	1.22293	1.30647	-0.0835435	1.29629	1.31665	1.23125	1.38169
156	1.239	1.28749	-0.0484885	1.26993	1.30505	1.21217	1.36281
157	1.21143	1.29287	-0.0814356	1.27803	1.30771	1.21759	1.36815
158	1.21179	1.28614	-0.0743424	1.26922	1.30305	1.21083	1.36145
159	1.17798	1.26799	-0.0900064	1.25075	1.28522	1.19267	1.3433
160	1.24033	1.32716	-0.086824	1.31421	1.34011	1.25191	1.40241
161	1.12015	1.23394	-0.113795	1.22145	1.24644	1.1587	1.30919
162	1.14724	1.25911	-0.111863	1.24339	1.27483	1.18382	1.3344
163	1.13784	1.18825	-0.0504098	1.16453	1.21198	1.1128	1.2637
164	1.1297	1.14538	-0.0156724	1.12713	1.16362	1.07004	1.22071
165	1.26455	1.28973	-0.025184	1.23664	1.34282	1.21317	1.36629
166	1.12201	1.14197	-0.0199558	1.12871	1.15522	1.06671	1.21722
167	1.10482	1.18201	-0.0771831	1.16648	1.19753	1.10672	1.25729
168	1.02673	1.11277	-0.0860404	1.09609	1.12945	1.03746	1.18807
169	1.16667	1.2412	-0.0745329	1.22991	1.25249	1.16597	1.31643
170	1.1713	1.27095	-0.0996534	1.25854	1.28337	1.19571	1.3462
171	1.19648	1.32204	-0.125558	1.30304	1.34104	1.2467	1.39739
172	1.12798	1.21745	-0.0894667	1.20885	1.22605	1.14224	1.29265
173	1.20403	1.31949	-0.115457	1.3069	1.33208	1.24425	1.39474
174	1.02942	1.10988	-0.0804615	1.09321	1.12655	1.03458	1.18519
175	1.14329	1.22208	-0.078795	1.20756	1.2366	1.14681	1.29736
176	1.12159	1.25769	-0.136093	1.24592	1.26945	1.18245	1.33292
177	1.16992	1.26799	-0.0980637	1.25075	1.28522	1.19267	1.3433
178	1.1683	1.27179	-0.103493	1.25826	1.28532	1.19653	1.34705
179	1.08027	1.19181	-0.111154	1.18068	1.20294	1.11658	1.26704
180	1.13997	1.1707	-0.0307339	1.14391	1.19749	1.09518	1.24622
181	1.11	1.24567	-0.135666	1.23541	1.25593	1.17045	1.32089
182	1.12356	1.25546	-0.131902	1.2429	1.26802	1.18022	1.33071
183	1.11119	1.23839	-0.127193	1.22001	1.25676	1.16305	1.31372
184	1.00481	1.20371	-0.198901	1.18828	1.21915	1.12843	1.279
185	1.08883	1.25062	-0.161791	1.22513	1.27612	1.17513	1.32611
186	1.00046	1.21339	-0.212933	1.19671	1.23008	1.13809	1.2887
187	0.946536	1.23795	-0.291417	1.225	1.25091	1.1627	1.3132

-----Analysis of variance-----

Source of variation	Sum of squares	Degrees of freedom	Mean square	F0
Regression	0.938265	8	0.117283	20.7581
Residual	1.0057	178	0.00564998	
Total	1.94396	186		

---With F0 = 20.7581 and F_alpha = 1.70497, reject the null hypothesis

Additional information

Standard error of estimate (se) = 0.0751664
Coefficient of multiple determination (R^2) = 0.482656
Multiple correlation coefficient (R) = 0.694735
Adjusted coefficient of multiple determination = 0.459405

Covariance matrix:

0.2556843	-0.0004509	0.0002914	4.294D-08	-3.445D-08	-0.0603965	-0.031746
13455	0.0011766					
-0.0004509	0.0000739	0.0000006	-2.489D-09	-7.689D-11	-0.0000053	-0.000017
04558	-0.0000464					
0.0002914	0.0000006	0.0000004	-7.846D-11	-1.143D-10	-0.0000692	-0.000039
00214	-0.0000077					
4.294D-08	-2.489D-09	-7.846D-11	2.648D-12	-1.661D-12	-2.554D-08	-1.005D-08
4D-08	3.397D-08					
-3.445D-08	-7.689D-11	-1.143D-10	-1.661D-12	2.526D-12	4.878D-09	3.463D-09
D-08	9.732D-09					
-0.0603965	-0.0000053	-0.0000692	-2.554D-08	4.878D-09	0.0150456	0.007568
23756	-0.000528					
-0.0317469	-0.0000173	-0.0000391	-1.005D-08	3.463D-09	0.0075687	0.004587
06539	0.0000281					
-0.0113455	-0.0004558	0.0000214	-8.064D-08	1.059D-08	0.0023756	-0.000653
97817	-0.0156641					
0.0011766	-0.0000464	-0.0000077	3.397D-08	9.732D-09	-0.000528	0.000028
56641	0.0028906					