

1 Report for Linear Model Linear_Regression_11

2 Basic Summary

3 Call:

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4 lm(formula = price ~ carat + cut + color + clarity, data = inputs$the.data)
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5 Residuals:

6	Min	1Q	Median	3Q	Max
	-6567	-511	-154	366	10580

7 Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	-3937.53	302.12	-13.0330	< 2.2e-16 ***
carat0.21	-55.74	471.42	-0.1182	0.90587
carat0.22	273.75	596.35	0.4591	0.6462
carat0.23	-433.67	304.99	-1.4219	0.15506
carat0.24	-370.37	305.77	-1.2113	0.2258
carat0.25	-259.41	307.65	-0.8432	0.39912
carat0.26	-197.46	305.84	-0.6456	0.51852
carat0.27	-197.57	306.80	-0.6440	0.51959
carat0.28	-169.69	308.14	-0.5507	0.58184
carat0.29	-61.70	312.52	-0.1974	0.8435
carat0.3	366.09	299.08	1.2240	0.22094
carat0.31	387.51	299.19	1.2952	0.19525
carat0.32	452.54	299.36	1.5117	0.13061
carat0.33	385.14	299.97	1.2840	0.19916
carat0.34	546.96	300.40	1.8207	0.06865 .
carat0.35	499.20	301.21	1.6573	0.09746 .
carat0.36	571.20	301.66	1.8935	0.05829 .
carat0.37	545.66	303.12	1.8001	0.07184 .
carat0.38	623.56	301.19	2.0703	0.03843 *
carat0.39	657.95	303.19	2.1701	0.03 *
carat0.4	762.88	299.81	2.5445	0.01095 *
carat0.41	754.14	299.74	2.5160	0.01187 *
carat0.42	730.96	301.08	2.4278	0.01519 *
carat0.43	917.16	302.25	3.0345	0.00241 **
carat0.44	895.60	306.98	2.9175	0.00353 **
carat0.45	1038.97	314.96	3.2987	0.00097 ***
carat0.46	1043.68	309.32	3.3741	0.00074 ***
carat0.47	1341.26	317.18	4.2286	2e-05 ***
carat0.48	1345.04	327.27	4.1098	4e-05 ***
carat0.49	1393.90	335.70	4.1523	3e-05 ***
carat0.5	1498.75	299.82	4.9989	5.78e-07 ***
carat0.51	1450.50	300.01	4.8349	1.33e-06 ***
carat0.52	1455.68	300.70	4.8410	1.29e-06 ***
carat0.53	1510.17	301.05	5.0163	5.28e-07 ***
carat0.54	1513.60	301.43	5.0214	5.14e-07 ***

carat0.55	1581.57	302.16	5.2343	1.66e-07 ***
carat0.56	1547.32	302.16	5.1209	3.05e-07 ***
carat0.57	1663.91	302.81	5.4950	3.92e-08 ***
carat0.58	1688.44	304.59	5.5434	2.98e-08 ***
carat0.59	1810.30	304.87	5.9379	2.90e-09 ***
carat0.6	1859.66	306.68	6.0638	1.33e-09 ***
carat0.61	1900.04	307.85	6.1719	6.79e-10 ***
carat0.62	2007.84	312.32	6.4288	1.29e-10 ***
carat0.63	2059.34	317.35	6.4892	8.71e-11 ***
carat0.64	2116.07	323.22	6.5469	5.93e-11 ***
carat0.65	2159.74	325.50	6.6352	3.27e-11 ***
carat0.66	2135.31	340.14	6.2777	3.46e-10 ***
carat0.67	2117.97	335.77	6.3077	2.85e-10 ***
carat0.68	2290.16	370.87	6.1751	6.66e-10 ***
carat0.69	2384.88	368.02	6.4803	9.23e-11 ***
carat0.7	2854.31	299.33	9.5356	< 2.2e-16 ***
carat0.71	2876.20	299.82	9.5930	< 2.2e-16 ***
carat0.72	2948.04	300.84	9.7993	< 2.2e-16 ***
carat0.73	2992.34	302.27	9.8995	< 2.2e-16 ***
carat0.74	3051.67	304.32	10.0279	< 2.2e-16 ***
carat0.75	3189.24	306.01	10.4220	< 2.2e-16 ***
carat0.76	3194.77	306.17	10.4346	< 2.2e-16 ***
carat0.77	3238.28	305.83	10.5885	< 2.2e-16 ***
carat0.78	3340.51	308.74	10.8197	< 2.2e-16 ***
carat0.79	3320.71	311.05	10.6758	< 2.2e-16 ***
carat0.8	3530.21	305.16	11.5684	< 2.2e-16 ***
carat0.81	3601.28	307.98	11.6932	< 2.2e-16 ***
carat0.82	3669.01	311.81	11.7668	< 2.2e-16 ***
carat0.83	3724.04	312.79	11.9058	< 2.2e-16 ***
carat0.84	3780.85	327.75	11.5357	< 2.2e-16 ***
carat0.85	4093.06	328.26	12.4689	< 2.2e-16 ***
carat0.86	4121.65	351.33	11.7315	< 2.2e-16 ***
carat0.87	4313.16	354.73	12.1591	< 2.2e-16 ***
carat0.88	4143.14	368.02	11.2578	< 2.2e-16 ***
carat0.89	4321.95	385.12	11.2222	< 2.2e-16 ***
carat0.9	4548.42	299.69	15.1772	< 2.2e-16 ***
carat0.91	4632.46	301.67	15.3560	< 2.2e-16 ***
carat0.92	4755.69	306.85	15.4982	< 2.2e-16 ***
carat0.93	4823.52	311.43	15.4881	< 2.2e-16 ***
carat0.94	5026.11	333.53	15.0693	< 2.2e-16 ***
carat0.95	5169.66	331.01	15.6179	< 2.2e-16 ***
carat0.96	5244.30	315.90	16.6010	< 2.2e-16 ***
carat0.97	5381.80	328.86	16.3652	< 2.2e-16 ***
carat0.98	5522.80	355.04	15.5556	< 2.2e-16 ***
carat0.99	5906.44	371.04	15.9188	< 2.2e-16 ***
carat1	5784.22	299.61	19.3060	< 2.2e-16 ***
carat1.01	5944.27	299.21	19.8667	< 2.2e-16 ***
carat1.02	6125.83	300.54	20.3824	< 2.2e-16 ***
carat1.03	6155.40	302.02	20.3811	< 2.2e-16 ***

carat1.04	6289.02	302.36	20.7999	< 2.2e-16 ***
carat1.05	6288.66	303.68	20.7084	< 2.2e-16 ***
carat1.06	6352.88	303.49	20.9330	< 2.2e-16 ***
carat1.07	6428.78	303.83	21.1594	< 2.2e-16 ***
carat1.08	6361.12	306.18	20.7759	< 2.2e-16 ***
carat1.09	6494.22	305.07	21.2876	< 2.2e-16 ***
carat1.1	6540.01	305.18	21.4299	< 2.2e-16 ***
carat1.11	6685.71	304.78	21.9360	< 2.2e-16 ***
carat1.12	6652.68	305.92	21.7462	< 2.2e-16 ***
carat1.13	6890.76	306.04	22.5158	< 2.2e-16 ***
carat1.14	6899.88	307.37	22.4483	< 2.2e-16 ***
carat1.15	6670.76	311.54	21.4121	< 2.2e-16 ***
carat1.16	6914.23	309.17	22.3638	< 2.2e-16 ***
carat1.17	7002.45	315.14	22.2200	< 2.2e-16 ***
carat1.18	7343.54	314.11	23.3792	< 2.2e-16 ***
carat1.19	7208.13	313.69	22.9782	< 2.2e-16 ***
carat1.2	7394.79	301.32	24.5410	< 2.2e-16 ***
carat1.21	7525.14	302.45	24.8808	< 2.2e-16 ***
carat1.22	7590.99	304.88	24.8986	< 2.2e-16 ***
carat1.23	7831.17	305.05	25.6715	< 2.2e-16 ***
carat1.24	7724.10	306.40	25.2089	< 2.2e-16 ***
carat1.25	7930.19	308.84	25.6770	< 2.2e-16 ***
carat1.26	8082.44	311.74	25.9265	< 2.2e-16 ***
carat1.27	7930.20	311.95	25.4213	< 2.2e-16 ***
carat1.28	8368.79	316.30	26.4583	< 2.2e-16 ***
carat1.29	8055.26	316.67	25.4371	< 2.2e-16 ***
carat1.3	8449.38	314.21	26.8908	< 2.2e-16 ***
carat1.31	8369.99	312.49	26.7844	< 2.2e-16 ***
carat1.32	8395.32	318.99	26.3181	< 2.2e-16 ***
carat1.33	8456.97	320.22	26.4098	< 2.2e-16 ***
carat1.34	8444.59	324.73	26.0051	< 2.2e-16 ***
carat1.35	8309.12	322.61	25.7560	< 2.2e-16 ***
carat1.36	9190.06	334.26	27.4938	< 2.2e-16 ***
carat1.37	8802.97	336.59	26.1533	< 2.2e-16 ***
carat1.38	9277.16	370.94	25.0101	< 2.2e-16 ***
carat1.39	9007.94	345.69	26.0582	< 2.2e-16 ***
carat1.4	9691.23	333.54	29.0559	< 2.2e-16 ***
carat1.41	10074.33	343.29	29.3463	< 2.2e-16 ***
carat1.42	9853.54	367.96	26.7786	< 2.2e-16 ***
carat1.43	9773.37	385.11	25.3778	< 2.2e-16 ***
carat1.44	9502.33	385.25	24.6654	< 2.2e-16 ***
carat1.45	9800.54	406.50	24.1094	< 2.2e-16 ***
carat1.46	9415.72	385.12	24.4485	< 2.2e-16 ***
carat1.47	9448.65	377.38	25.0373	< 2.2e-16 ***
carat1.48	9356.70	596.53	15.6853	< 2.2e-16 ***
carat1.49	10852.95	442.53	24.5250	< 2.2e-16 ***
carat1.5	10914.93	300.77	36.2898	< 2.2e-16 ***
carat1.51	11194.56	300.73	37.2252	< 2.2e-16 ***
carat1.52	11300.72	303.35	37.2527	< 2.2e-16 ***

carat1.53	11323.14	306.71	36.9185	< 2.2e-16 ***
carat1.54	11547.49	309.26	37.3394	< 2.2e-16 ***
carat1.55	11512.29	313.79	36.6876	< 2.2e-16 ***
carat1.56	11000.64	315.28	34.8914	< 2.2e-16 ***
carat1.57	11271.94	315.94	35.6772	< 2.2e-16 ***
carat1.58	11926.90	318.70	37.4230	< 2.2e-16 ***
carat1.59	11348.54	318.96	35.5803	< 2.2e-16 ***
carat1.6	11870.87	318.06	37.3228	< 2.2e-16 ***
carat1.61	11716.26	328.23	35.6958	< 2.2e-16 ***
carat1.62	12356.12	329.81	37.4649	< 2.2e-16 ***
carat1.63	12310.48	335.04	36.7436	< 2.2e-16 ***
carat1.64	11698.18	339.22	34.4856	< 2.2e-16 ***
carat1.65	12011.56	356.62	33.6818	< 2.2e-16 ***
carat1.66	12192.02	358.53	34.0059	< 2.2e-16 ***
carat1.67	12641.88	368.04	34.3490	< 2.2e-16 ***
carat1.68	12871.64	389.57	33.0402	< 2.2e-16 ***
carat1.69	13531.95	373.99	36.1828	< 2.2e-16 ***
carat1.7	12876.95	306.96	41.9497	< 2.2e-16 ***
carat1.71	13154.74	313.94	41.9027	< 2.2e-16 ***
carat1.72	13127.93	329.29	39.8671	< 2.2e-16 ***
carat1.73	13006.40	333.57	38.9918	< 2.2e-16 ***
carat1.74	13329.74	343.32	38.8264	< 2.2e-16 ***
carat1.75	13593.56	334.24	40.6698	< 2.2e-16 ***
carat1.76	13371.83	360.67	37.0745	< 2.2e-16 ***
carat1.77	12597.64	394.68	31.9190	< 2.2e-16 ***
carat1.78	13515.23	421.85	32.0378	< 2.2e-16 ***
carat1.79	13818.35	421.87	32.7552	< 2.2e-16 ***
carat1.8	14135.86	377.42	37.4539	< 2.2e-16 ***
carat1.81	13041.85	471.65	27.6515	< 2.2e-16 ***
carat1.82	14040.79	421.88	33.2813	< 2.2e-16 ***
carat1.83	13495.25	385.14	35.0402	< 2.2e-16 ***
carat1.84	12384.70	596.52	20.7617	< 2.2e-16 ***
carat1.85	12852.41	667.10	19.2660	< 2.2e-16 ***
carat1.86	13527.96	471.64	28.6829	< 2.2e-16 ***
carat1.87	14308.65	491.43	29.1162	< 2.2e-16 ***
carat1.88	12320.41	596.49	20.6550	< 2.2e-16 ***
carat1.89	14819.53	596.49	24.8447	< 2.2e-16 ***
carat1.9	13232.53	491.44	26.9260	< 2.2e-16 ***
carat1.91	13423.99	442.55	30.3333	< 2.2e-16 ***
carat1.92	16361.02	788.94	20.7379	< 2.2e-16 ***
carat1.93	17182.75	516.61	33.2607	< 2.2e-16 ***
carat1.94	15345.48	666.86	23.0116	< 2.2e-16 ***
carat1.95	12393.74	789.27	15.7027	< 2.2e-16 ***
carat1.96	11999.58	596.92	20.1024	< 2.2e-16 ***
carat1.97	16743.61	596.41	28.0738	< 2.2e-16 ***
carat1.98	15638.67	550.05	28.4315	< 2.2e-16 ***
carat1.99	15660.38	666.87	23.4835	< 2.2e-16 ***
carat2	15714.81	305.56	51.4302	< 2.2e-16 ***

carat2.01	16233.44	302.82	53.6079	< 2.2e-16 ***
carat2.02	16333.34	308.88	52.8786	< 2.2e-16 ***
carat2.03	16271.01	314.32	51.7665	< 2.2e-16 ***
carat2.04	16407.53	319.06	51.4248	< 2.2e-16 ***
carat2.05	16772.75	327.34	51.2396	< 2.2e-16 ***
carat2.06	16334.92	329.45	49.5821	< 2.2e-16 ***
carat2.07	16888.22	336.65	50.1661	< 2.2e-16 ***
carat2.08	16709.82	339.28	49.2503	< 2.2e-16 ***
carat2.09	16834.17	338.41	49.7444	< 2.2e-16 ***
carat2.1	16157.57	332.36	48.6150	< 2.2e-16 ***
carat2.11	16433.84	339.31	48.4335	< 2.2e-16 ***
carat2.12	16702.54	365.46	45.7024	< 2.2e-16 ***
carat2.13	16885.16	381.15	44.3003	< 2.2e-16 ***
carat2.14	16576.34	336.65	49.2385	< 2.2e-16 ***
carat2.15	16284.34	381.20	42.7185	< 2.2e-16 ***
carat2.16	17490.81	368.10	47.5162	< 2.2e-16 ***
carat2.17	16374.85	389.74	42.0152	< 2.2e-16 ***
carat2.18	16678.25	353.12	47.2310	< 2.2e-16 ***
carat2.19	17563.53	374.13	46.9456	< 2.2e-16 ***
carat2.2	17028.83	351.48	48.4488	< 2.2e-16 ***
carat2.21	16923.92	370.99	45.6186	< 2.2e-16 ***
carat2.22	16775.82	360.88	46.4864	< 2.2e-16 ***
carat2.23	16167.85	422.08	38.3049	< 2.2e-16 ***
carat2.24	17500.07	400.39	43.7078	< 2.2e-16 ***
carat2.25	15932.86	389.79	40.8760	< 2.2e-16 ***
carat2.26	16883.78	413.80	40.8013	< 2.2e-16 ***
carat2.27	16507.57	422.03	39.1148	< 2.2e-16 ***
carat2.28	17051.46	394.75	43.1953	< 2.2e-16 ***
carat2.29	17744.83	400.34	44.3240	< 2.2e-16 ***
carat2.3	16781.13	374.11	44.8563	< 2.2e-16 ***
carat2.31	17166.47	413.81	41.4836	< 2.2e-16 ***
carat2.32	18026.48	400.35	45.0264	< 2.2e-16 ***
carat2.33	16067.34	491.48	32.6920	< 2.2e-16 ***
carat2.34	15170.65	550.50	27.5578	< 2.2e-16 ***
carat2.35	17647.32	516.67	34.1562	< 2.2e-16 ***
carat2.36	17352.88	491.58	35.3004	< 2.2e-16 ***
carat2.37	18123.72	549.96	32.9546	< 2.2e-16 ***
carat2.38	17054.94	491.53	34.6974	< 2.2e-16 ***
carat2.39	18088.97	516.60	35.0156	< 2.2e-16 ***
carat2.4	18422.75	422.04	43.6514	< 2.2e-16 ***
carat2.41	18101.62	596.61	30.3406	< 2.2e-16 ***
carat2.42	19059.76	491.55	38.7747	< 2.2e-16 ***
carat2.43	17703.69	516.68	34.2643	< 2.2e-16 ***
carat2.44	17801.45	666.95	26.6907	< 2.2e-16 ***
carat2.45	16504.92	596.59	27.6656	< 2.2e-16 ***
carat2.46	16032.59	666.90	24.0405	< 2.2e-16 ***
carat2.47	18551.18	667.05	27.8107	< 2.2e-16 ***
carat2.48	18187.73	491.55	37.0007	< 2.2e-16 ***
carat2.49	17449.68	667.15	26.1556	< 2.2e-16 ***

carat2.5	16806.56	394.98	42.5506	< 2.2e-16 ***
carat2.51	18622.74	394.77	47.1732	< 2.2e-16 ***
carat2.52	18450.64	455.79	40.4801	< 2.2e-16 ***
carat2.53	18931.03	516.74	36.6354	< 2.2e-16 ***
carat2.54	16808.52	471.81	35.6256	< 2.2e-16 ***
carat2.55	17646.19	666.92	26.4592	< 2.2e-16 ***
carat2.56	19694.39	789.23	24.9538	< 2.2e-16 ***
carat2.57	19284.06	666.82	28.9196	< 2.2e-16 ***
carat2.58	16048.74	666.93	24.0637	< 2.2e-16 ***
carat2.6	20356.25	667.09	30.5148	< 2.2e-16 ***
carat2.61	19209.85	667.05	28.7983	< 2.2e-16 ***
carat2.63	16037.96	790.30	20.2935	< 2.2e-16 ***
carat2.64	19151.51	1075.17	17.8125	< 2.2e-16 ***
carat2.65	17715.56	1075.12	16.4777	< 2.2e-16 ***
carat2.66	19065.95	667.17	28.5773	< 2.2e-16 ***
carat2.67	20019.39	1075.24	18.6186	< 2.2e-16 ***
carat2.68	13210.47	790.05	16.7210	< 2.2e-16 ***
carat2.7	16216.79	1075.19	15.0827	< 2.2e-16 ***
carat2.71	18257.12	1075.05	16.9826	< 2.2e-16 ***
carat2.72	17007.95	789.57	21.5409	< 2.2e-16 ***
carat2.74	17069.46	789.38	21.6239	< 2.2e-16 ***
carat2.75	16752.53	789.21	21.2271	< 2.2e-16 ***
carat2.77	14619.90	1075.88	13.5888	< 2.2e-16 ***
carat2.8	18894.33	789.06	23.9453	< 2.2e-16 ***
carat3	16931.06	492.03	34.4106	< 2.2e-16 ***
carat3.01	19296.68	422.17	45.7088	< 2.2e-16 ***
carat3.02	16015.04	1076.11	14.8823	< 2.2e-16 ***
carat3.04	19345.15	789.13	24.5145	< 2.2e-16 ***
carat3.05	13846.84	1075.79	12.8713	< 2.2e-16 ***
carat3.11	16095.13	1076.22	14.9552	< 2.2e-16 ***
carat3.22	17066.39	1075.96	15.8616	< 2.2e-16 ***
carat3.24	16495.90	1075.88	15.3325	< 2.2e-16 ***
carat3.4	19901.53	1076.05	18.4950	< 2.2e-16 ***
carat3.5	16614.23	1075.91	15.4420	< 2.2e-16 ***
carat3.51	20431.55	1075.18	19.0029	< 2.2e-16 ***
carat3.65	16611.88	1076.07	15.4376	< 2.2e-16 ***
carat3.67	20883.06	1075.92	19.4094	< 2.2e-16 ***
carat4	20636.67	1075.98	19.1794	< 2.2e-16 ***
carat4.01	20330.10	790.11	25.7307	< 2.2e-16 ***
carat4.13	22272.88	1076.07	20.6984	< 2.2e-16 ***
carat4.5	24803.13	1076.22	23.0465	< 2.2e-16 ***
carat5.01	24290.13	1076.22	22.5698	< 2.2e-16 ***
cutGood	586.21	31.43	18.6504	< 2.2e-16 ***
cutIdeal	916.65	29.08	31.5267	< 2.2e-16 ***
cutPremium	747.98	29.19	25.6228	< 2.2e-16 ***
cutVery Good	785.37	29.41	26.7059	< 2.2e-16 ***
colorE	-204.29	17.05	-11.9791	< 2.2e-16 ***
colorF	-264.79	17.24	-15.3549	< 2.2e-16 ***

colorG	-494.72	16.89	-29.2821	< 2.2e-16 ***
colorH	-1006.34	17.98	-55.9605	< 2.2e-16 ***
colorI	-1500.51	20.20	-74.2809	< 2.2e-16 ***
colorJ	-2334.60	25.04	-93.2356	< 2.2e-16 ***
clarityIF	4822.76	49.37	97.6902	< 2.2e-16 ***
claritySI1	3214.93	42.51	75.6278	< 2.2e-16 ***
claritySI2	2282.72	42.70	53.4624	< 2.2e-16 ***
clarityVS1	4125.79	43.35	95.1663	< 2.2e-16 ***
clarityVS2	3793.60	42.73	88.7828	< 2.2e-16 ***
clarityVVS1	4509.61	45.81	98.4343	< 2.2e-16 ***
clarityVVS2	4476.02	44.59	100.3768	< 2.2e-16 ***

Significance codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

8 Residual standard error: 1032.8 on 49711 degrees of freedom

Multiple R-squared: 0.9336, Adjusted R-Squared: 0.9332

F-statistic: 2426 on 288 and 49711 DF, p-value: < 2.2e-16

9 *Type II ANOVA Analysis*

10 Response: price

	Sum Sq	DF	F value	Pr(>F)
carat	692730006187.42	271	2396.58	< 2.2e-16 ***
cut	1279878242.1	4	299.99	< 2.2e-16 ***
color	15634077841.98	6	2442.97	< 2.2e-16 ***
clarity	28654258603.93	7	3837.85	< 2.2e-16 ***
Residuals	53021936486.45	49711		

Significance codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1