

Combined Code

Terrance Luangrath

2025-03-17

Terrance's block of code

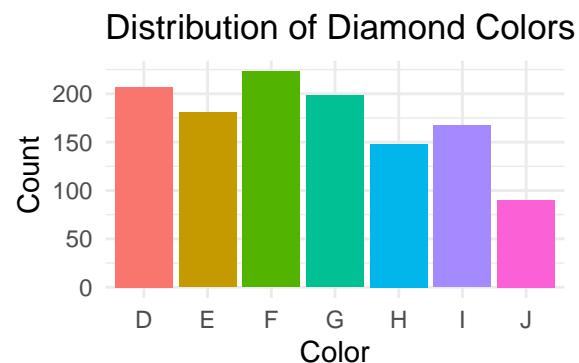


Figure 1: Diamond Color Distribution

Distribution of Diamond Color Groups

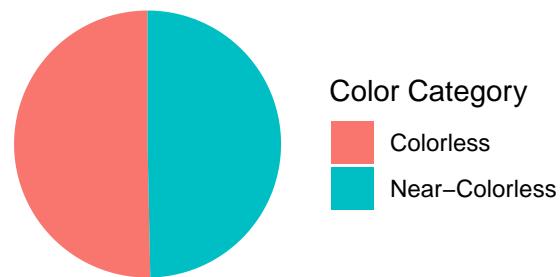
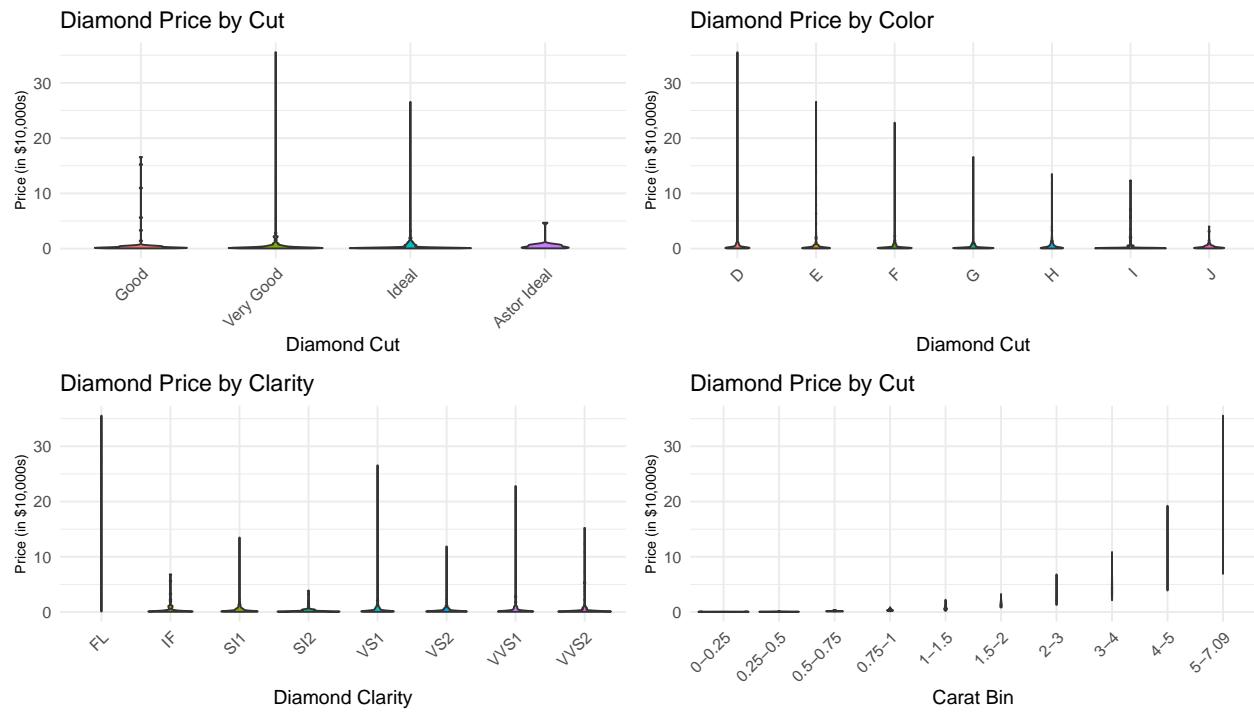
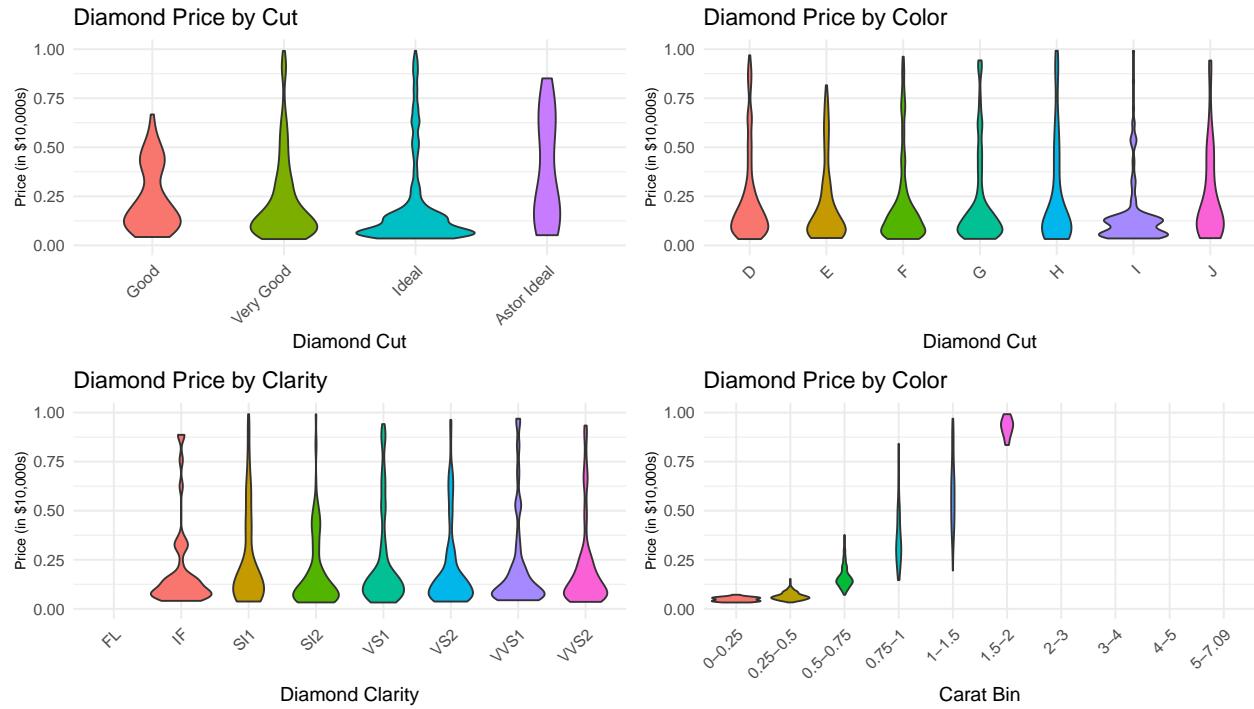


Figure 2: Diamond Color Category visualize through a Pie Chart

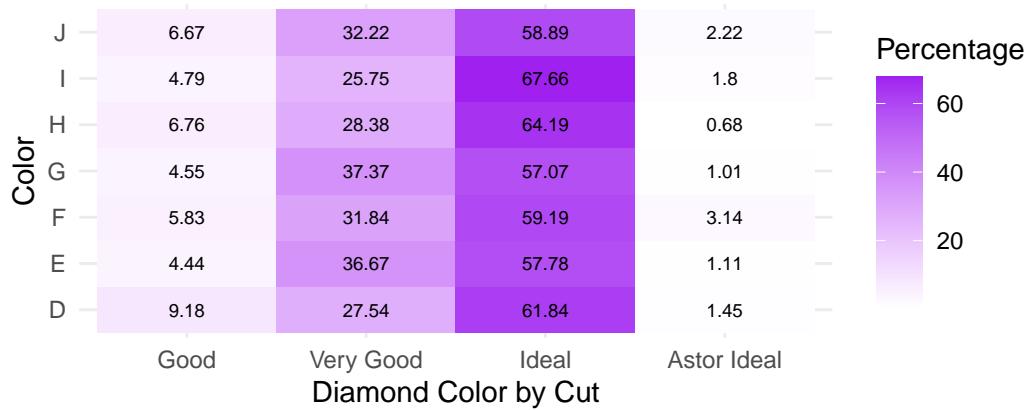
Violin Plot of Diamond Categories



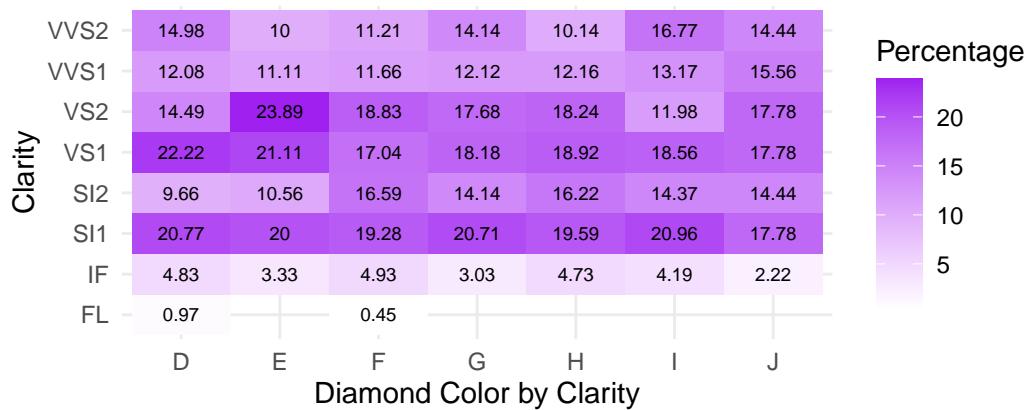
Zoom-In Violin Plot of Diamond Categories



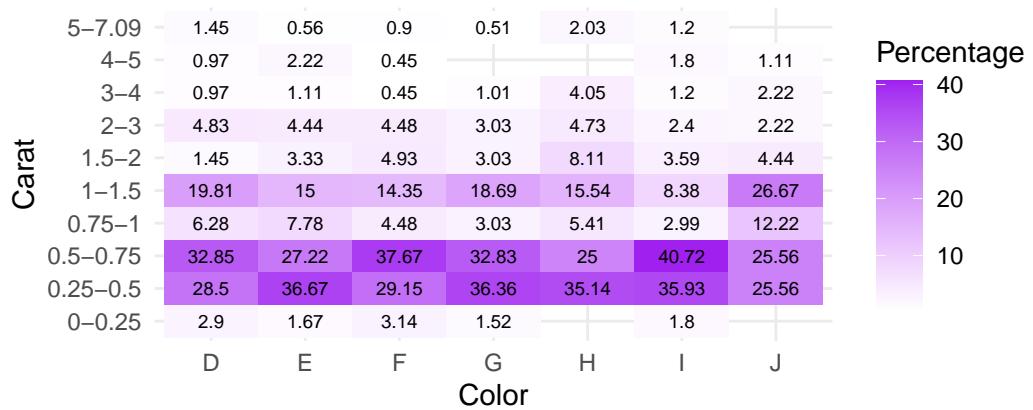
Diamond Color by Cut

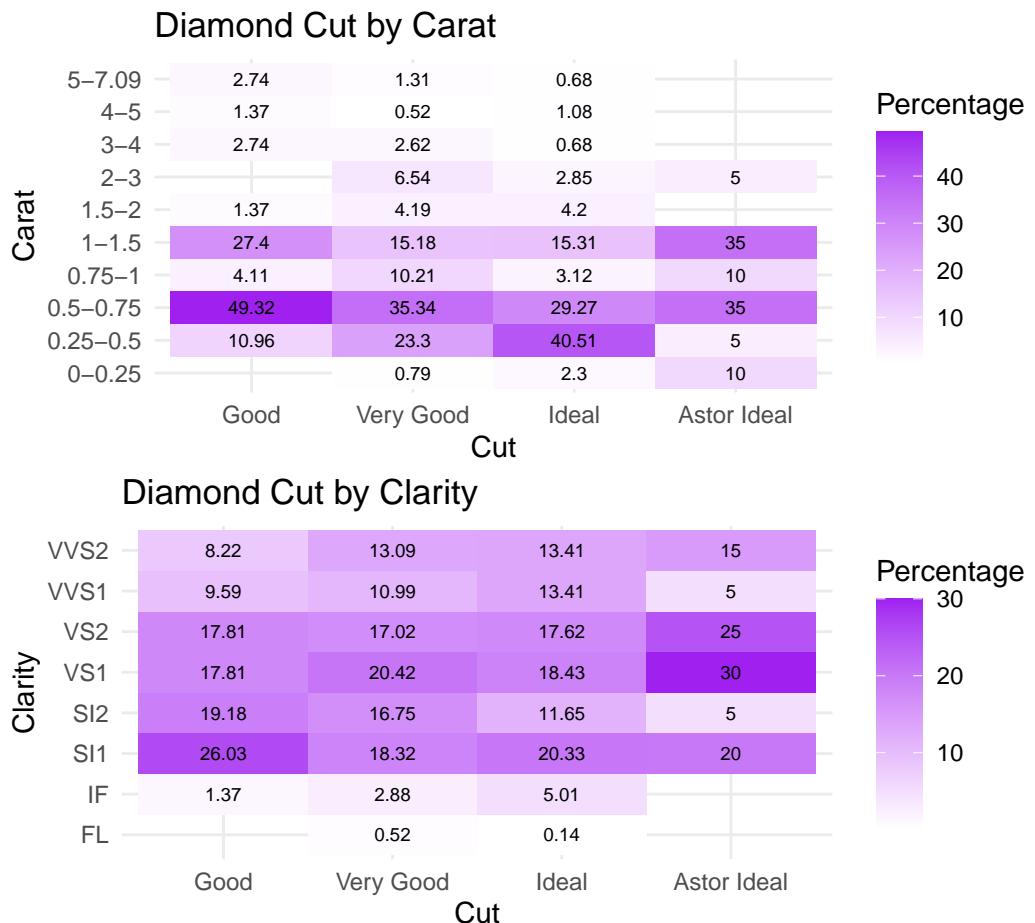


Diamond Color by Clarity



Diamond Color by Carat





Humaid

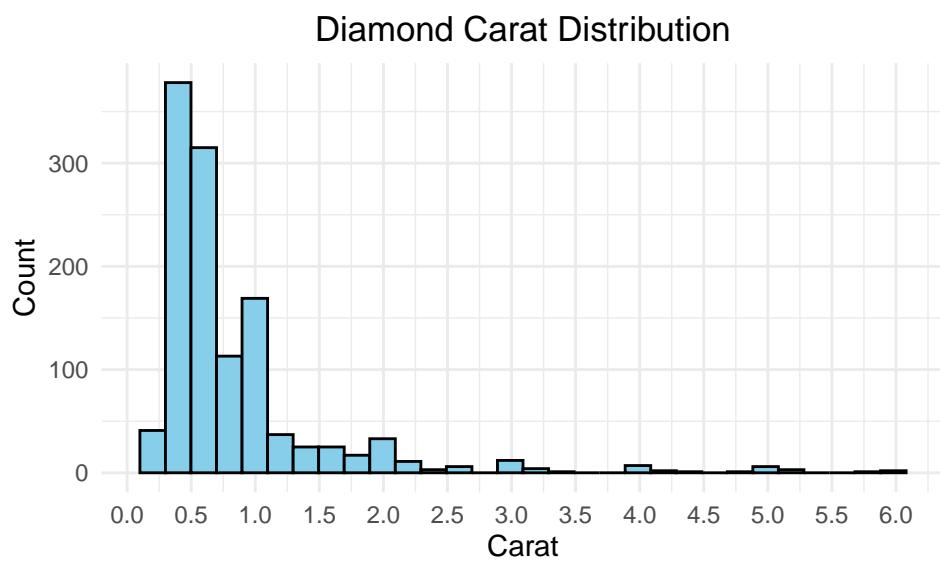


Figure 3: Diamond Carat Distribution

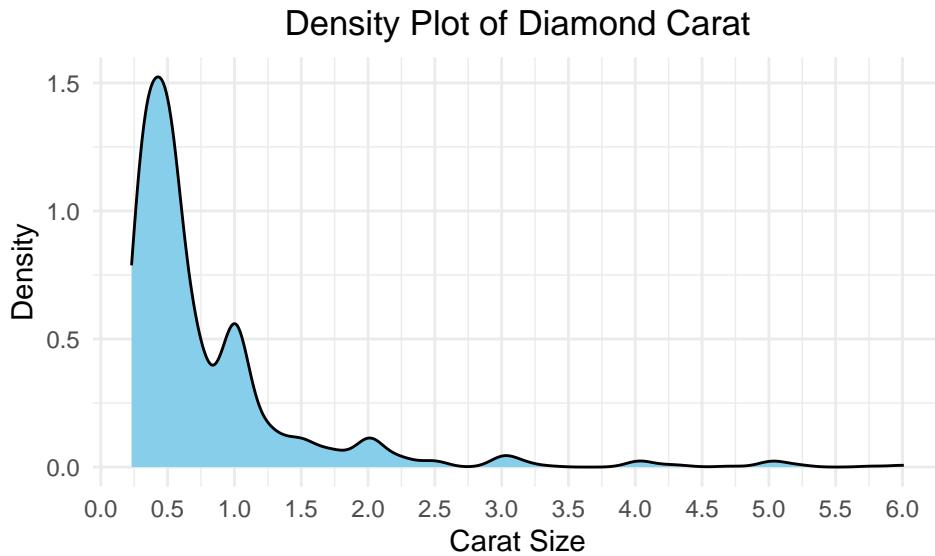


Figure 4: Density plot for Carat

Table 1: Summary of diamond by Carat Range

Carat Range	Count	Proportion
[0,0.25)	22	0.018
[0.25,0.5)	397	0.327
[0.5,0.75)	394	0.325
[0.75,1)	67	0.055
[1,1.5)	198	0.163
[1.5,2)	48	0.040
[2,3)	47	0.039
[3,4)	17	0.014
[4,5)	11	0.009
[5,6)	10	0.008
[6,7)	2	0.002

Proportion of Diamond by Carat Range

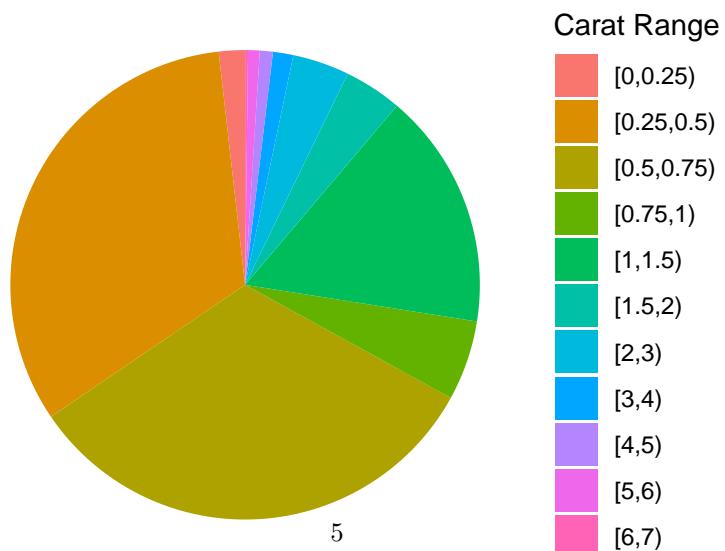


Figure 5: Pie graph summarizing Carat proportion

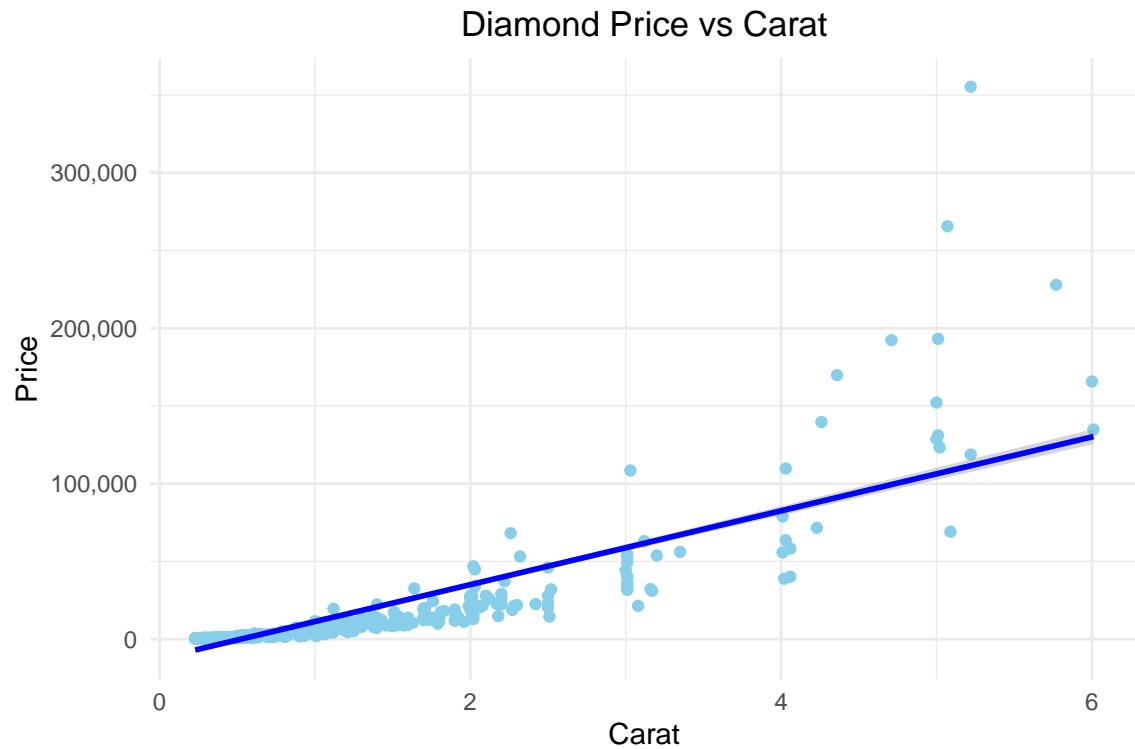


Figure 6: Diamond Price vs Carat Size

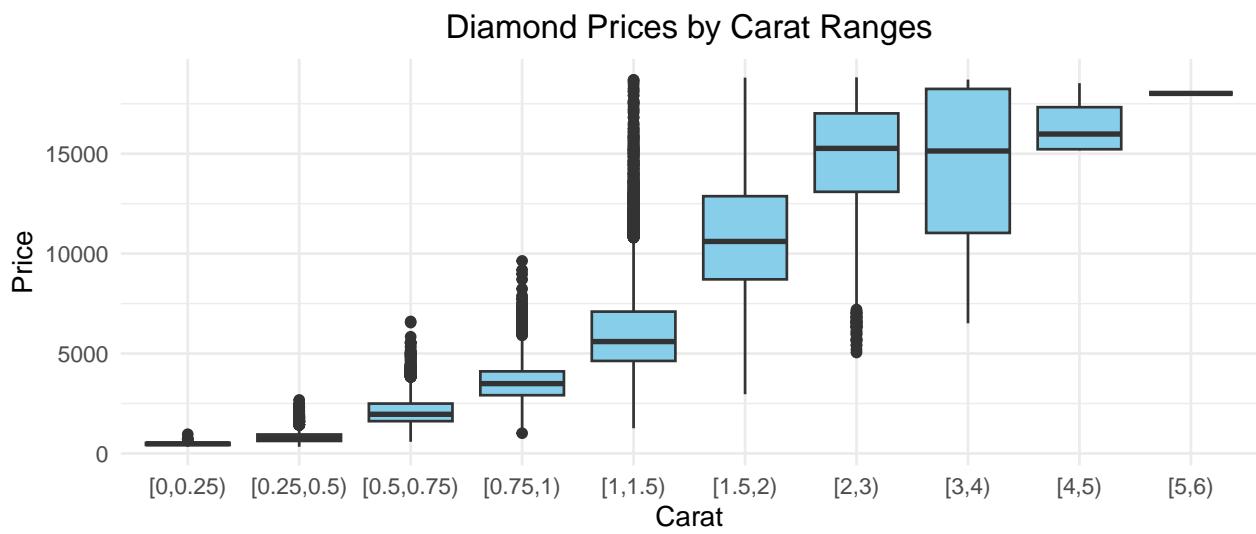


Figure 7: Box and whisker plot

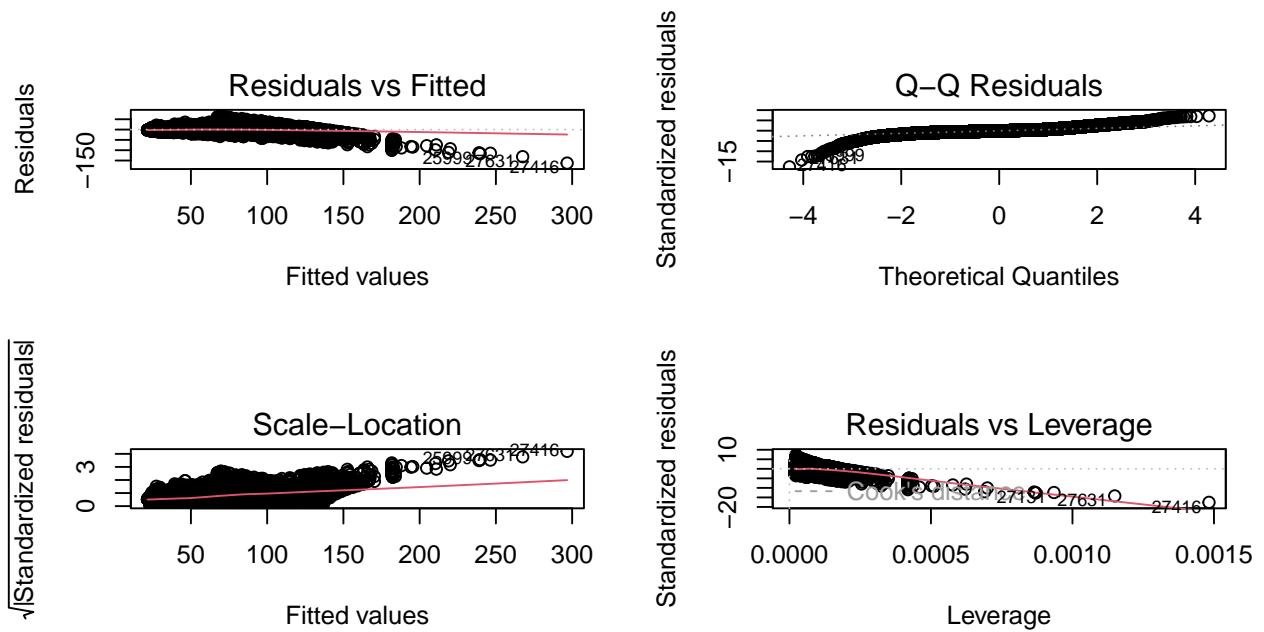


Figure 8: Residuals plot

Kristina

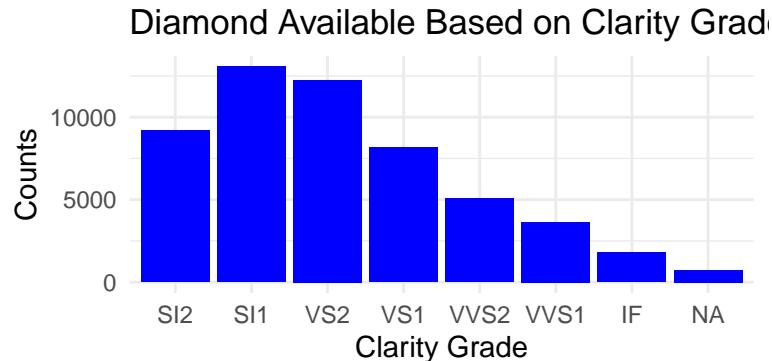


Table 3: Frequency Table of Clarity Grades

Clarity	SI2	SI1	VS2	VS1	VVS2	VVS1	IF	FL
Frequency	9194	13065	12258	8171	5066	3655	1790	0

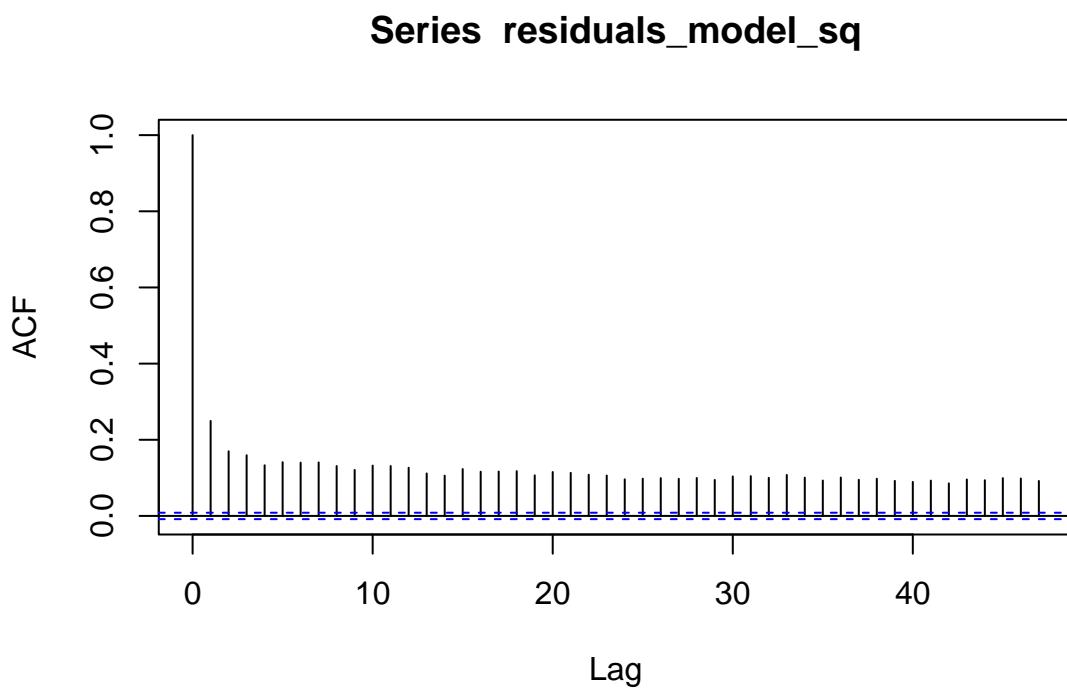


Figure 9: ACF Residual Model

Proportion of Clarity Grades Available

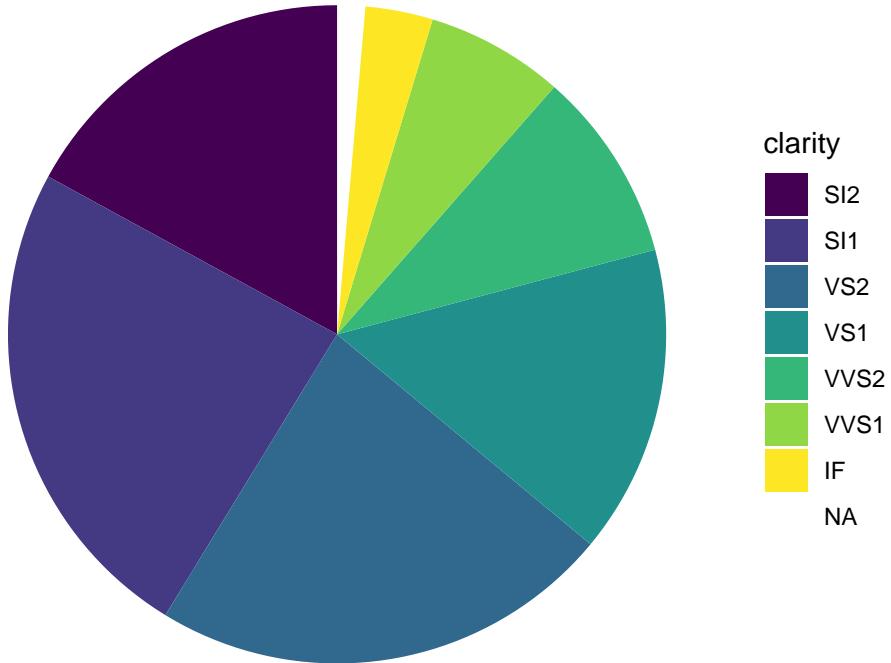
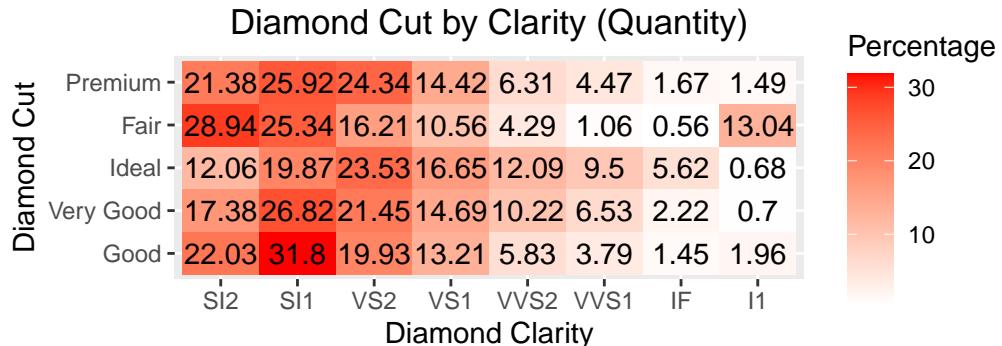


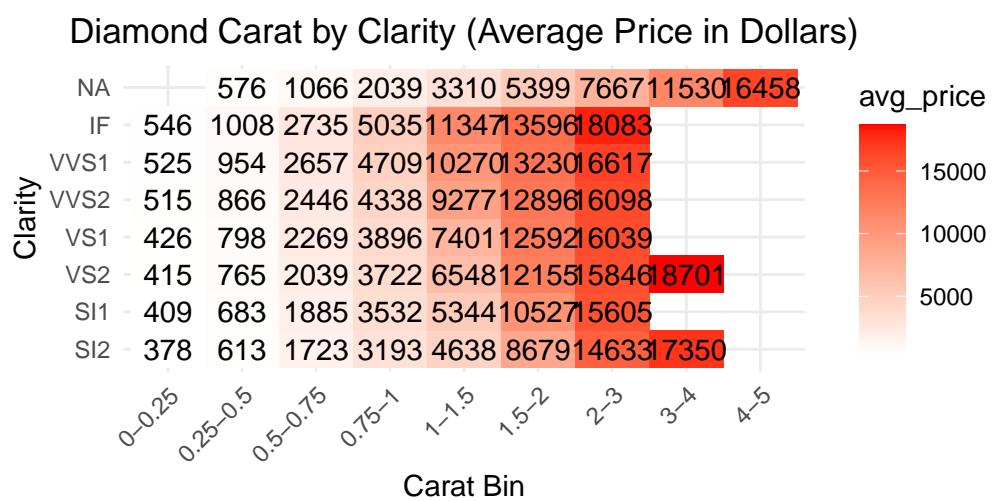
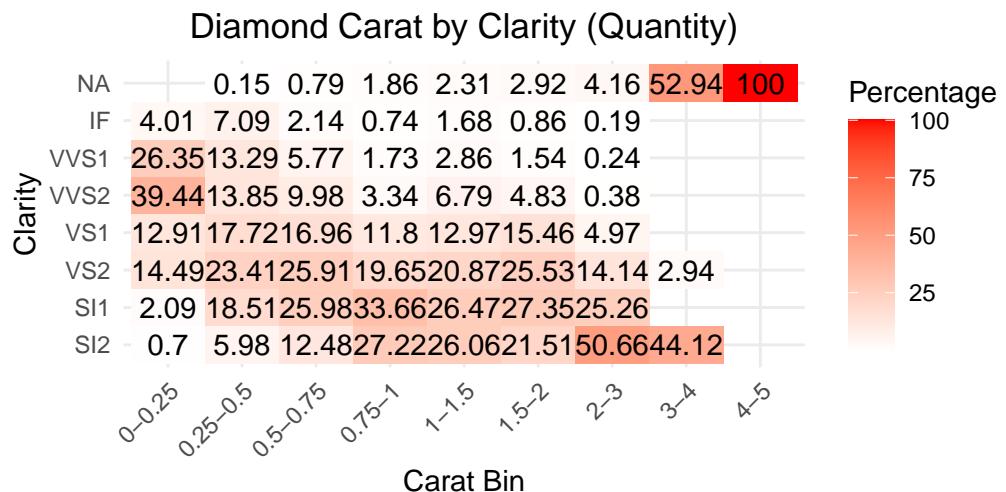
Table 4: Min and Max Prices by Clarity

clarity	min_price	max_price
SI2	326	18804
SI1	326	18818
VS2	334	18823
VS1	327	18795
VVS2	336	18768
VVS1	336	18777
IF	369	18806
NA	345	18531

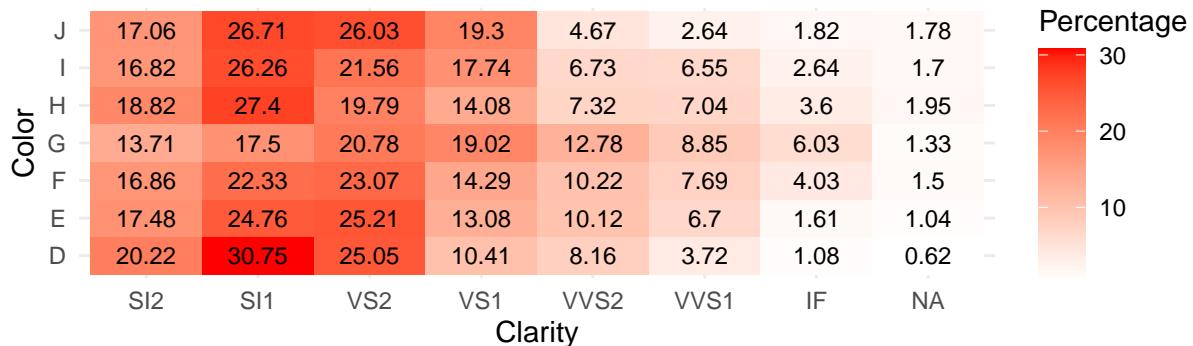
Table 5: Table of FL diamond

carat	cut	color	clarity	depth	table	price	x	y	z

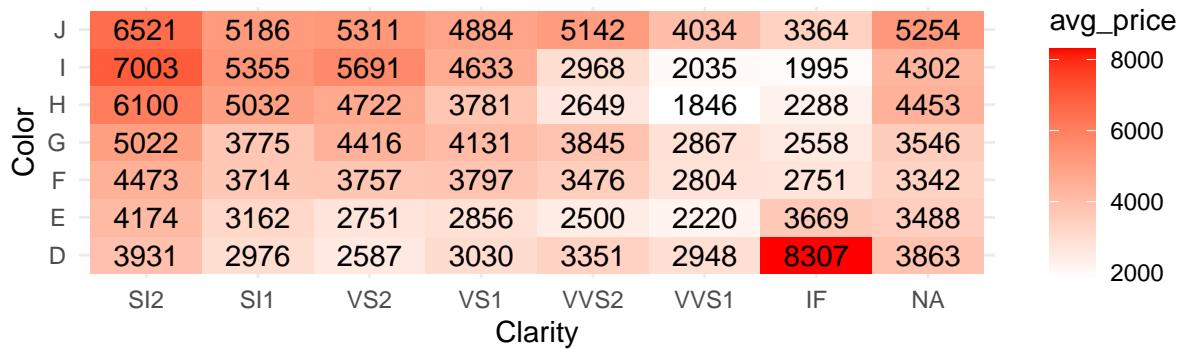




Diamond Color by Clarity

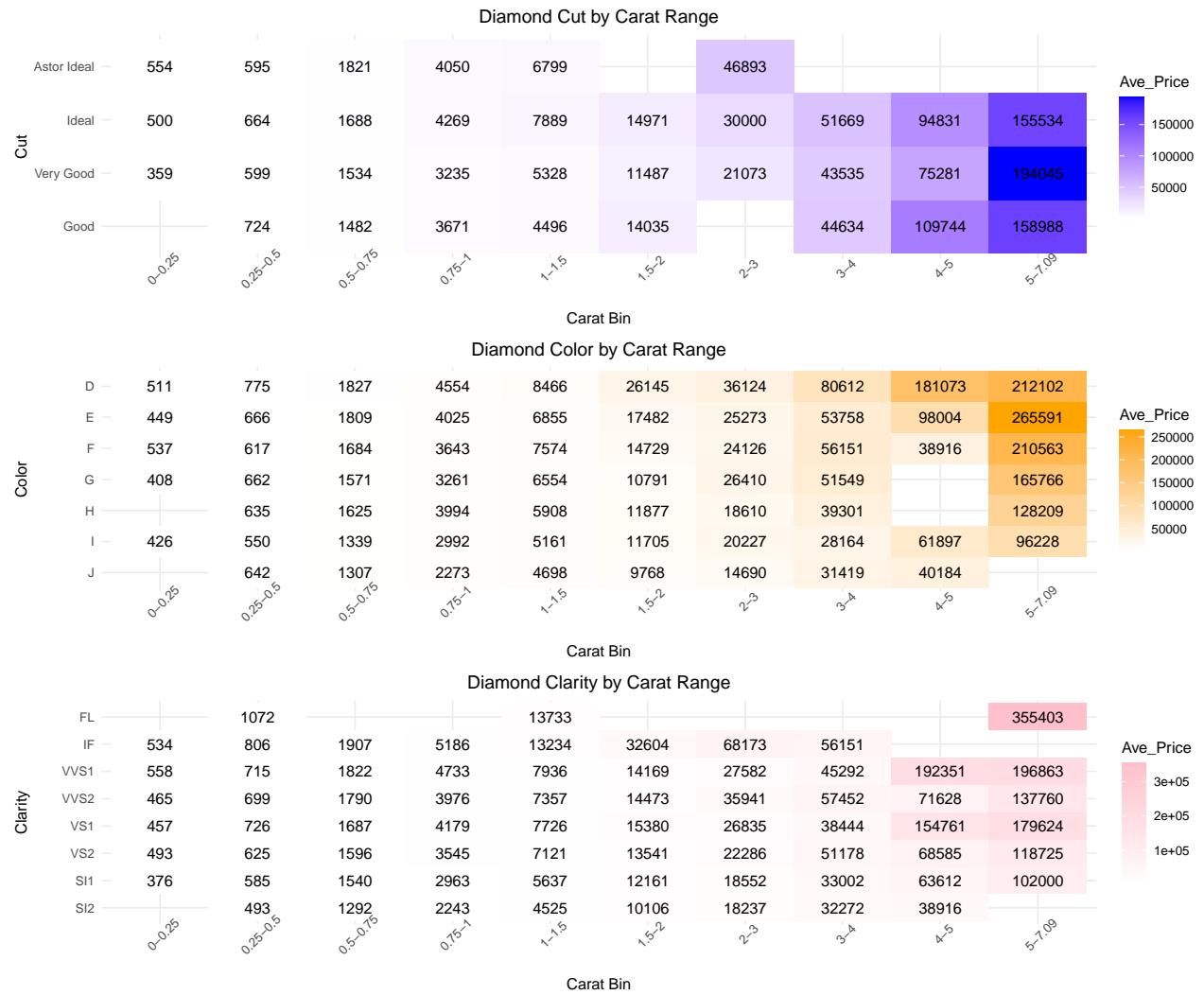


Diamond Color by Clarity (Average Price in Dollars)



Katie

Ask about this later



Ask about this error

Table 6: Clarity/Color/Cut Max-Min Ave Price Range per Carat Bin

carat_bin	Price_Rng_Cut	Price_Rng_Color	Price_Rng_Clar
0-0.25	195	129	182
0.25-0.5	129	225	579
0.5-0.75	339	520	615
0.75-1	1034	2281	2943
1-1.5	3393	3768	9208
1.5-2	3484	16377	22498
2-3	25820	21434	49936
3-4	8134	52448	25180
4-5	34463	142157	153435
5-7.09	38511	169363	253403