

139	144	149	153	155	155	155	155	235.6	-1.0	-12.1	-5.2	2.1	-1.7	-2.7	1.3	16	11	10	16	24	40	51	61
144	151	153	156	159	156	156	156	-22.6	-17.5	-6.2	-3.2	-2.9	-0.1	0.4	-1.2	12	12	14	19	26	58	60	55
150	155	160	163	158	156	156	156	-10.9	-9.3	-1.6	1.5	0.2	-0.9	-0.6	-0.1	14	13	16	24	40	57	69	56
159	161	162	160	160	159	159	159	-7.1	-1.9	0.2	1.5	0.9	-0.1	0.0	0.3	14	17	22	29	51	87	80	62
159	160	161	162	162	155	155	155	-0.6	-0.8	1.5	1.6	-0.1	-0.7	0.6	1.3	18	22	37	56	68	109	103	77
161	161	161	161	160	157	157	157	1.8	-0.2	1.6	-0.3	-0.8	1.5	1.0	-1.0	24	35	55	64	81	104	113	92
162	162	161	163	162	157	157	157	-1.3	-0.4	-0.3	-1.5	-0.5	1.7	1.1	-0.8	49	64	78	87	103	121	120	101
162	162	161	161	163	158	158	158	-2.6	1.6	-3.8	-1.8	1.9	1.2	-0.6	-0.4	72	92	95	98	112	100	103	99

(a) source image samples

(b) forward DCT coefficients

(c) quantization table

15	0	-1	0	0	0	0	0	240	0	-10	0	0	0	0	0	144	146	149	152	154	156	156	156
-2	-1	0	0	0	0	0	0	-24	-12	0	0	0	0	0	0	148	150	152	154	156	156	156	156
-1	-1	0	0	0	0	0	0	-14	-13	0	0	0	0	0	0	155	156	157	158	158	157	156	155
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	160	161	161	162	161	159	157	155
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	163	163	164	163	162	160	158	156
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	163	164	164	164	162	160	158	157
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	160	161	162	162	162	161	159	158
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	158	159	161	161	162	161	159	158

(d) normalized quantized coefficients

(e) denormalized quantized coefficients

(f) reconstructed image samples

Figure 10. DCT and Quantization Examples

Gregory Wallace. The JPEG Still Picture Compression Standard in IEEE Transactions on Consumer Electronics, February, 1992.