CSE534 Multimedia Systems Assignment3

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1. I) Three original pictures, outdoor, indoor, and portrait are ori\_pic1.jpg, ori\_pic2.jpg, and ori\_pic3.jpg.

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II) grey scale pictures: grey1.jpg, grey2.jpg, and grey3.jpg

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III) subsampled images: subsample1.jpg, subsample2.jpg, subsample3.jpg

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1. Quantization Tables:

Q1 = [16 11 10 16 24 40 51 61;

12 12 14 19 26 58 60 55;

14 13 16 24 40 57 69 56;

14 17 22 29 51 87 80 62;

18 22 37 56 68 109 103 77;

24 35 55 64 81 104 113 92;

49 64 78 87 103 121 120 101;

72 92 95 98 112 100 103 99];

Q2 = [ 1 1 1 1 1 2 3 3;

1 1 1 1 1 3 3 3;

1 1 1 1 2 3 3 3;

1 1 1 1 3 4 4 3;

1 1 2 3 3 5 5 4;

1 2 3 3 4 5 6 5;

2 3 4 4 5 6 6 5;

4 5 5 5 6 5 5 5];

Q3 = [17 18 24 47 99 99 99 99;

18 21 26 66 99 99 99 99;

24 26 56 99 99 99 99 99;

47 66 99 99 99 99 99 99;

99 99 99 99 99 99 99 99;

99 99 99 99 99 99 99 99;

99 99 99 99 99 99 99 99;

99 99 99 99 99 99 99 99];

Q1 and Q3 are selected from the lecture note, and Q2 are selected randomly, in order to compare the difference between compressed by large value (Q1) and small value (Q3).

1. I)

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II) PSNR value:

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| 33.4538 | 51.5550 | 31.3232 |
| 34.7456 | 51.5444 | 32.0297 |
| 33.8137 | 51.1602 | 31.5759 |

III&IV) The image ratio compressed by Q2 is smaller than compressed by Q1 and Q3, which make the reconstructed image more clear than others. The image compressed by using Q3 has the worst quality.