CAP 6010 Project Results

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Generated: 3/5/2020 10:02:48 AM

Original Image:

88	88	88	89	90	91	92	93	94	95	93	95	96	98	97	94
93	91	91	90	92	93	94	94	95	95	92	93	95	95	95	96
95	95	95	95	96	97	94	96	97	96	98	97	98	99	95	97
97	96	98	97	98	94	95	97	99	100	99	101	100	100	98	98
99	100	97	99	100	100	98	98	100	101	100	99	101	102	99	100
100	101	100	99	101	102	99	100	103	102	103	101	101	100	102	101
100	102	103	101	101	100	102	103	103	105	104	104	103	104	104	103
103	105	103	105	105	104	104	104	102	101	100	100	100	101	102	103
104	104	105	105	105	104	104	106	102	103	101	101	102	101	102	102
102	105	105	105	106	104	106	104	103	101	100	100	101	102	102	103
102	105	105	105	106	104	106	104	103	101	100	100	101	102	102	103
102	105	105	105	106	104	105	104	103	101	102	100	102	102	102	103
104	105	106	105	106	104	106	103	103	102	100	100	101	102	102	103
103	105	107	107	106	104	106	104	103	101	100	100	101	102	102	103
103	105	106	108	106	104	106	105	103	101	101	100	101	103	102	105
102	105	105	105	106	104	106	107	104	103	102	100	101	104	102	104

Predictor 1:

Image After Compression:

88	0	0	1	1	1	1	1	1	1	-2	2	1	2	-1	-3
5	-2	0	-1	2	1	1	0	1	0	-3	1	2	0	0	1
2	0	0	0	1	1	-3	2	1	-1	2	-1	1	1	-4	2
2	-1	2	-1	1	-4	1	2	2	1	-1	2	-1	0	-2	0
2	1	-3	2	1	0	-2	0	2	1	-1	-1	2	1	-3	1
1	1	-1	-1	2	1	-3	1	3	-1	1	-2	0	-1	2	-1
0	2	1	-2	0	-1	2	1	0	2	-1	0	-1	1	0	-1
3	2	-2	2	0	-1	0	0	-2	-1	-1	0	0	1	1	1
1	0	1	0	0	-1	0	2	-4	1	-2	0	1	-1	1	0
-2	3	0	0	1	-2	2	-2	-1	-2	-1	0	1	1	0	1
0	3	0	0	1	-2	2	-2	-1	-2	-1	0	1	1	0	1
0	3	0	0	1	-2	1	-1	-1	-2	1	-2	2	0	0	1
2	1	1	-1	1	-2	2	-3	0	-1	-2	0	1	1	0	1
-1	2	2	0	-1	-2	2	-2	-1	-2	-1	0	1	1	0	1
0	2	1	2	-2	-2	2	-1	-2	-2	0	-1	1	2	-1	3
-1	3	0	0	1	-2	2	1	-3	-1	-1	-2	1	3	-2	2

Image After Huffman Encoding:

0101100011000000000000000101101000001000110101011
0101010100010111011010000001001010101100010011 00
0100111000001010111010000011010001100000101010110100
0100011010001100010101011000100010000011010001110101 11
0100000101011010000101011101000001101101000001010 1100

000001101101000001010110001010001100010111011010011
101000001011101101000010100011101100101
010100010001011010010111101011011011111000000
001001101110100010101011000101110001100 1
010110101001100010110100010110110101101110000100
101010011000101101000101101101011011100000100
101010011000101100011011010110001011010011 00
010000000110001011010001010111011010111000010 0
011010001001011010110100010110110101101110000100
101000001000101101011010001101011010111011000100011010100
011010100110001011010000010101101101101011000101000101101 00

Image After Huffman Decoding:

88	0	0	1	1	1	1	1	1	1	-2	2	1	2	-1	-3
5	-2	0	-1	2	1	1	0	1	0	-3	1	2	0	0	1
2	0	0	0	1	1	-3	2	1	-1	2	-1	1	1	-4	2
2	-1	2	-1	1	-4	1	2	2	1	-1	2	-1	0	-2	0
2	1	-3	2	1	0	-2	0	2	1	-1	-1	2	1	-3	1
1	1	-1	-1	2	1	-3	1	3	-1	1	-2	0	-1	2	-1
0	2	1	-2	0	-1	2	1	0	2	-1	0	-1	1	0	-1
3	2	-2	2	0	-1	0	0	-2	-1	-1	0	0	1	1	1
1	0	1	0	0	-1	0	2	-4	1	-2	0	1	-1	1	0
-2	3	0	0	1	-2	2	-2	-1	-2	-1	0	1	1	0	1
0	3	0	0	1	-2	2	-2	-1	-2	-1	0	1	1	0	1
0	3	0	0	1	-2	1	-1	-1	-2	1	-2	2	0	0	1
2	1	1	-1	1	-2	2	-3	0	-1	-2	0	1	1	0	1
-1	2	2	0	-1	-2	2	-2	-1	-2	-1	0	1	1	0	1
0	2	1	2	-2	-2	2	-1	-2	-2	0	-1	1	2	-1	3
-1	3	0	0	1	-2	2	1	-3	-1	-1	-2	1	3	-2	2

Image After Decompression:

88	88	88	89	90	91	92	93	94	95	93	95	96	98	97	94
93	91	91	90	92	93	94	94	95	95	92	93	95	95	95	96
95	95	95	95	96	97	94	96	97	96	98	97	98	99	95	97
97	96	98	97	98	94	95	97	99	100	99	101	100	100	98	98
99	100	97	99	100	100	98	98	100	101	100	99	101	102	99	100
100	101	100	99	101	102	99	100	103	102	103	101	101	100	102	101
100	102	103	101	101	100	102	103	103	105	104	104	103	104	104	103
103	105	103	105	105	104	104	104	102	101	100	100	100	101	102	103
104	104	105	105	105	104	104	106	102	103	101	101	102	101	102	102
102	105	105	105	106	104	106	104	103	101	100	100	101	102	102	103
102	105	105	105	106	104	106	104	103	101	100	100	101	102	102	103
102	105	105	105	106	104	105	104	103	101	102	100	102	102	102	103
104	105	106	105	106	104	106	103	103	102	100	100	101	102	102	103
103	105	107	107	106	104	106	104	103	101	100	100	101	102	102	103
103	105	106	108	106	104	106	105	103	101	101	100	101	103	102	105
102	105	105	105	106	104	106	107	104	103	102	100	101	104	102	104

Stats:

Compression Ratio: 2048 / 777 = 2.635779
Bits/Pixel: 8 / 2.635779 = 3.035156

RMS Error: 0

Predictor 2:

Image After Compression:

88	0	0	1	1	1	1	1	1	1	-2	2	1	2	-1	-3
5	3	3	1	2	2	2	1	1	0	-1	-2	-1	-3	-2	2
2	4	4	5	4	4	0	2	2	1	6	4	3	4	0	1
2	1	3	2	2	-3	1	1	2	4	1	4	2	1	3	1
2	4	-1	2	2	6	3	1	1	1	1	-2	1	2	1	2
1	1	3	0	1	2	1	2	3	1	3	2	0	-2	3	1
0	1	3	2	0	-2	3	3	0	3	1	3	2	4	2	2
3	3	0	4	4	4	2	1	-1	-4	-4	-4	-3	-3	-2	0
1	-1	2	0	0	0	0	2	0	2	1	1	2	0	0	-1
-2	1	0	0	1	0	2	-2	1	-2	-1	-1	-1	1	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	-1	0	0	0	2	0	1	0	0	0
2	0	1	0	0	0	1	-1	0	1	-2	0	-1	0	0	0
-1	0	1	2	0	0	0	1	0	-1	0	0	0	0	0	0
0	0	-1	1	0	0	0	1	0	0	1	0	0	1	0	2
-1	0	-1	-3	0	0	0	2	1	2	1	0	0	1	0	-1

Image After Huffman Encoding:

0101100011000000000000000010110100000100011010101 1
0101010100010100010100000100010001000000101101011011010101101011010110100
0100010101000101010001010101000101010001010100101000100000101010101000101010001010001010100100
0100000101000100010001010110000010001010100000101010001000001010000
0100010101000110100010001010101010001010000000000010110001000001 00
0000010100100010000010001010000010100010010101101010000
1000101000100101011010100010100101010000010100010001010100010001 00
0101000101001010101000101010001010100010000011010101011010101011010101101010110101011010111
0001101001111010010100000001001 1011
0101100110010100010110001011011011011001 00
1111111111111111
1111110111110100100111
0100100111000111000101110111111
0111000100111001011111111
1101100111001100110010100
0111011010101111101000001000011001011

Image After Huffman Decoding:

88	0	0	1	1	1	1	1	1	1	-2	2	1	2	-1	-3
5	3	3	1	2	2	2	1	1	0	-1	-2	-1	-3	-2	2
2	4	4	5	4	4	0	2	2	1	6	4	3	4	0	1
2	1	3	2	2	-3	1	1	2	4	1	4	2	1	3	1
2	4	-1	2	2	6	3	1	1	1	1	-2	1	2	1	2
1	1	3	0	1	2	1	2	3	1	3	2	0	-2	3	1
0	1	3	2	0	-2	3	3	0	3	1	3	2	4	2	2
3	3	0	4	4	4	2	1	-1	-4	-4	-4	-3	-3	-2	0
1	-1	2	0	0	0	0	2	0	2	1	1	2	0	0	-1

-2	1	0	0	1	0	2	-2	1	-2	-1	-1	-1	1	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	-1	0	0	0	2	0	1	0	0	0
2	0	1	0	0	0	1	-1	0	1	-2	0	-1	0	0	0
-1	0	1	2	0	0	0	1	0	-1	0	0	0	0	0	0
0	0	-1	1	0	0	0	1	0	0	1	0	0	1	0	2
-1	0	-1	-3	0	0	0	2	1	2	1	0	0	1	0	-1

Image After Decompression:

88	88	88	89	90	91	92	93	94	95	93	95	96	98	97	94
93	91	91	90	92	93	94	94	95	95	92	93	95	95	95	96
95	95	95	95	96	97	94	96	97	96	98	97	98	99	95	97
97	96	98	97	98	94	95	97	99	100	99	101	100	100	98	98
99	100	97	99	100	100	98	98	100	101	100	99	101	102	99	100
100	101	100	99	101	102	99	100	103	102	103	101	101	100	102	101
100	102	103	101	101	100	102	103	103	105	104	104	103	104	104	103
103	105	103	105	105	104	104	104	102	101	100	100	100	101	102	103
104	104	105	105	105	104	104	106	102	103	101	101	102	101	102	102
102	105	105	105	106	104	106	104	103	101	100	100	101	102	102	103
102	105	105	105	106	104	106	104	103	101	100	100	101	102	102	103
102	105	105	105	106	104	105	104	103	101	102	100	102	102	102	103
104	105	106	105	106	104	106	103	103	102	100	100	101	102	102	103
103	105	107	107	106	104	106	104	103	101	100	100	101	102	102	103
103	105	106	108	106	104	106	105	103	101	101	100	101	103	102	105
102	105	105	105	106	104	106	107	104	103	102	100	101	104	102	104

Stats:

Compression Ratio: 2048 / 790 = 2.592405
Bits/Pixel: 8 / 2.592405 = 3.085938
RMS Error: 0

Predictor 3:

Image After Compression:

88	0	0	1	1	1	1	1	1	1	-2	2	1	2	-1	-3
5	3	3	2	3	3	3	2	2	1	-3	0	0	-1	-3	-1
2	2	4	4	6	5	1	2	3	1	3	5	5	4	0	2
2	1	3	2	3	-2	-2	3	3	3	3	3	3	2	-1	3
2	3	1	1	3	2	4	3	3	2	0	0	0	2	-1	2
1	2	0	2	2	2	-1	2	5	2	2	1	2	-1	0	2
0	2	2	1	2	-1	0	4	3	2	2	1	2	3	4	1
3	5	1	2	4	3	4	2	-1	-2	-5	-4	-4	-2	-2	-1
1	1	0	2	0	-1	0	2	-2	1	0	1	2	1	1	0
-2	1	1	0	1	-1	2	0	-3	-1	-3	-1	0	0	1	1
0	3	0	0	1	-2	2	-2	-1	-2	-1	0	1	1	0	1
0	3	0	0	1	-2	1	-2	-1	-2	1	0	2	1	0	1
2	3	1	0	1	-2	2	-2	-1	-1	-1	-2	1	0	0	1

-1	1	2	1	1	-2	2	-2	0	-2	-2	0	1	1	0	1
0	2	1	1	-1	-2	2	-1	-1	-2	0	0	1	2	0	3
-1	2	0	-1	-2	-2	2	1	-1	0	1	-1	1	3	-1	2

Image After Huffman Encoding:

0101100011000000000000000101101000001000110101011
0101010100010100010100010001010001010001010001000100000101011110110101011011
0100010001010100010101000101010101000101010100000100010100000101000101010100010101010001010100101000
0100000101000100010100010111010111010100010100010100010100010100010100010100010100010011010100
0100010100000000101000100010101000101000101000100111010001101000
0001001010001000100011010001010101000100010000010001110100
1010001000001000111010101000101000100010000010001010001010100000
0101000101010100000100010101000101000101010001000110101101010101011010101011010101011010110101101011
0000101001011101000101100100010000001
0101100001000110100101010111010101011011110000
1010100110001011010001011011010110111000100
1010100110001011000101101101011001010000100
0100010100001000101101000101101101101101011001100
0110001000000010110100010111010110101110000100
1010000000110101101000110110101111000100101010 0
0110100101101011010110100000111000110001010001101 00

Image After Huffman Decoding:

88	0	0	1	1	1	1	1	1	1	-2	2	1	2	-1	-3
5	3	3	2	3	3	3	2	2	1	-3	0	0	-1	-3	-1
2	2	4	4	6	5	1	2	3	1	3	5	5	4	0	2
2	1	3	2	3	-2	-2	3	3	3	3	3	3	2	-1	3
2	3	1	1	3	2	4	3	3	2	0	0	0	2	-1	2
1	2	0	2	2	2	-1	2	5	2	2	1	2	-1	0	2
0	2	2	1	2	-1	0	4	3	2	2	1	2	3	4	1
3	5	1	2	4	3	4	2	-1	-2	-5	-4	-4	-2	-2	-1
1	1	0	2	0	-1	0	2	-2	1	0	1	2	1	1	0
-2	1	1	0	1	-1	2	0	-3	-1	-3	-1	0	0	1	1
0	3	0	0	1	-2	2	-2	-1	-2	-1	0	1	1	0	1
0	3	0	0	1	-2	1	-2	-1	-2	1	0	2	1	0	1
2	3	1	0	1	-2	2	-2	-1	-1	-1	-2	1	0	0	1
-1	1	2	1	1	-2	2	-2	0	-2	-2	0	1	1	0	1
0	2	1	1	-1	-2	2	-1	-1	-2	0	0	1	2	0	3
-1	2	0	-1	-2	-2	2	1	-1	0	1	-1	1	3	-1	2

Image After Decompression:

88	88	88	89	90	91	92	93	94	95	93	95	96	98	97	94
93	91	91	90	92	93	94	94	95	95	92	93	95	95	95	96
95	95	95	95	96	97	94	96	97	96	98	97	98	99	95	97
97	96	98	97	98	94	95	97	99	100	99	101	100	100	98	98
99	100	97	99	100	100	98	98	100	101	100	99	101	102	99	100
100	101	100	99	101	102	99	100	103	102	103	101	101	100	102	101
100	102	103	101	101	100	102	103	103	105	104	104	103	104	104	103
103	105	103	105	105	104	104	104	102	101	100	100	100	101	102	103
104	104	105	105	105	104	104	106	102	103	101	101	102	101	102	102
102	105	105	105	106	104	106	104	103	101	100	100	101	102	102	103

102	105	105	105	106	104	106	104	103	101	100	100	101	102	102	103
102	105	105	105	106	104	105	104	103	101	102	100	102	102	102	103
104	105	106	105	106	104	106	103	103	102	100	100	101	102	102	103
103	105	107	107	106	104	106	104	103	101	100	100	101	102	102	103
103	105	106	108	106	104	106	105	103	101	101	100	101	103	102	105
102	105	105	105	106	104	106	107	104	103	102	100	101	104	102	104

Stats:

Compression Ratio: 2048 / 949 = 2.158061
Bits/Pixel: 8 / 2.158061 = 3.707031
RMS Error: 0

Predictor 4:

Image After Compression:

88	0	0	1	1	1	1	1	1	1	-2	2	1	2	-1	-3
5	-2	0	-2	1	0	0	-1	0	-1	-1	-1	1	-2	1	4
2	2	0	1	-1	0	-4	2	0	-1	5	-2	-1	1	-4	1
2	-1	2	-1	0	-5	4	0	1	2	-3	3	-2	-1	2	-2
2	2	-5	3	0	4	-3	-2	0	0	0	-3	3	1	-1	1
1	0	2	-3	1	1	-1	1	1	-2	2	-1	-2	-2	5	-2
0	1	2	-1	-2	-2	5	0	-3	3	-2	2	-1	2	-2	0
3	0	-3	4	0	0	-2	-1	-2	-3	0	0	1	0	1	2
1	-2	3	-2	0	0	0	2	-2	2	-1	0	1	-2	0	-1
-2	3	-1	0	1	-1	2	-4	3	-3	1	0	0	2	-1	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	-1	1	0	0	2	-2	1	-1	0	0
2	-2	1	-1	0	0	1	-2	1	1	-3	2	-1	1	0	0
-1	1	1	1	-2	0	0	1	-1	-1	1	0	0	0	0	0
0	0	-1	2	-1	0	0	1	-1	0	1	-1	0	1	-1	2
-1	1	-1	-2	3	0	0	2	-1	1	-1	-1	0	1	-1	-1

Image After Huffman Encoding:

0101100011000000000000000010110100000100011010101 1
0101010100010111010110011011101101101100010110001010100
0100010010001110101010110100101101010101000101101100010101011 00
0100011010001110101010101101010100100010001010110101000101101101000 1011
0100010001010101011010100101010100010101101010111110101011010100000 1100
0010100010101100000110000010110100011010110101101010101000 1011
1000100011010110101101010101001010101101010001011010001101000 10111
0101001010101101010100110101101101011010101111001000100
0001011010100010111110100010110100011100010111011
0101101010001110001101000101010110101000101011001101000 1100
1111111111111111
1111110110011010001011000 1111
0100010110001111000101100000101011010001100 11
0110000000101111000110110011111
1101101000111100011100011100011 0100
0110001101011010100110100011000110111000110 11

Image After Huffman Decoding:

88	0	0	1	1	1	1	1	1	1	-2	2	1	2	-1	-3
5	-2	0	-2	1	0	0	-1	0	-1	-1	-1	1	-2	1	4
2	2	0	1	-1	0	-4	2	0	-1	5	-2	-1	1	-4	1
2	-1	2	-1	0	-5	4	0	1	2	-3	3	-2	-1	2	-2
2	2	-5	3	0	4	-3	-2	0	0	0	-3	3	1	-1	1
1	0	2	-3	1	1	-1	1	1	-2	2	-1	-2	-2	5	-2
0	1	2	-1	-2	-2	5	0	-3	3	-2	2	-1	2	-2	0
3	0	-3	4	0	0	-2	-1	-2	-3	0	0	1	0	1	2
1	-2	3	-2	0	0	0	2	-2	2	-1	0	1	-2	0	-1
-2	3	-1	0	1	-1	2	-4	3	-3	1	0	0	2	-1	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	-1	1	0	0	2	-2	1	-1	0	0
2	-2	1	-1	0	0	1	-2	1	1	-3	2	-1	1	0	0
-1	1	1	1	-2	0	0	1	-1	-1	1	0	0	0	0	0
0	0	-1	2	-1	0	0	1	-1	0	1	-1	0	1	-1	2
-1	1	-1	-2	3	0	0	2	-1	1	-1	-1	0	1	-1	-1

Image After Decompression:

88	88	88	89	90	91	92	93	94	95	93	95	96	98	97	94
93	91	91	90	92	93	94	94	95	95	92	93	95	95	95	96
95	95	95	95	96	97	94	96	97	96	98	97	98	99	95	97
97	96	98	97	98	94	95	97	99	100	99	101	100	100	98	98
99	100	97	99	100	100	98	98	100	101	100	99	101	102	99	100
100	101	100	99	101	102	99	100	103	102	103	101	101	100	102	101
100	102	103	101	101	100	102	103	103	105	104	104	103	104	104	103
103	105	103	105	105	104	104	104	102	101	100	100	100	101	102	103
104	104	105	105	105	104	104	106	102	103	101	101	102	101	102	102
102	105	105	105	106	104	106	104	103	101	100	100	101	102	102	103
102	105	105	105	106	104	106	104	103	101	100	100	101	102	102	103
102	105	105	105	106	104	105	104	103	101	102	100	102	102	102	103
104	105	106	105	106	104	106	103	103	102	100	100	101	102	102	103
103	105	107	107	106	104	106	104	103	101	100	100	101	102	102	103
103	105	106	108	106	104	106	105	103	101	101	100	101	103	102	105
102	105	105	105	106	104	106	107	104	103	102	100	101	104	102	104

Stats:

Compression Ratio: 2048 / 799 = 2.563204
Bits/Pixel: 8 / 2.563204 = 3.121094
RMS Error: 0

Predictor 5:

Image After Compression:

88	0	0	1	1	1	1	1	1	1	-2	2	1	2	-1	-3
5	-2	0	-1	2	1	1	0	1	0	-2	0	2	-1	0	2
2	1	0	0	0	1	-3	2	1	-1	3	-1	0	1	-4	2
2	-1	2	-1	1	-4	2	1	2	1	-2	2	-1	0	0	-1
2	1	-4	2	1	2	-2	-1	1	1	-1	-2	2	1	-2	1

1	1	0	-2	2	1	-2	1	2	-1	1	-2	-1	-1	3	-1
0	2	1	-2	-1	-1	3	1	-1	2	-1	1	-1	1	-1	-1
3	1	-2	3	0	-1	-1	0	-2	-2	-1	0	0	1	1	1
1	-1	2	-1	0	-1	0	2	-3	1	-2	0	1	-1	1	0
-2	3	0	0	1	-2	2	-3	1	-2	0	0	1	1	0	1
0	2	0	0	1	-1	1	-1	-1	-1	-1	0	1	1	0	1
0	2	0	0	1	-1	0	0	-1	-1	1	-2	2	0	0	1
2	0	1	-1	1	-1	2	-3	0	0	-2	1	0	1	0	1
-1	2	2	0	-1	-1	1	-1	-1	-2	0	0	1	1	0	1
0	1	0	2	-2	-1	1	0	-2	-1	0	-1	1	2	-1	3
-1	2	0	-1	2	-1	1	1	-2	0	-1	-2	1	2	-2	1

Image After Huffman Encoding:

0101100011000000000000000010110100000100011010101 1
0101010100010111011010000001001010111010001110100
0100001110001010110100000110101000111000101010110100
0100011010001100010101011010000010000010110100011111011
0100000101010110100000100010110110000011010110100000101100
0000101011010000010110001000110001011011011010100011
1010000010110110110101000001101000110001100011011
0101000001011010100101101110101101011011111000000
0001101000111011101000101011000101110001101 1
0101101010011000101101000101011000101111000 0100
1010011000110001101101101110000100
1010011000111101101100010110100 1100
0100100011000110100010101111010110010 0100
0110100010010110110001101101011110000100
1001010001011011001010110111011000100011010100
0110100101101000110000010111011010110001000101100

Image After Huffman Decoding:

88	0	0	1	1	1	1	1	1	1	-2	2	1	2	-1	-3
5	-2	0	-1	2	1	1	0	1	0	-2	0	2	-1	0	2
2	1	0	0	0	1	-3	2	1	-1	3	-1	0	1	-4	2
2	-1	2	-1	1	-4	2	1	2	1	-2	2	-1	0	0	-1
2	1	-4	2	1	2	-2	-1	1	1	-1	-2	2	1	-2	1
1	1	0	-2	2	1	-2	1	2	-1	1	-2	-1	-1	3	-1
0	2	1	-2	-1	-1	3	1	-1	2	-1	1	-1	1	-1	-1
3	1	-2	3	0	-1	-1	0	-2	-2	-1	0	0	1	1	1
1	-1	2	-1	0	-1	0	2	-3	1	-2	0	1	-1	1	0
-2	3	0	0	1	-2	2	-3	1	-2	0	0	1	1	0	1
0	2	0	0	1	-1	1	-1	-1	-1	-1	0	1	1	0	1
0	2	0	0	1	-1	0	0	-1	-1	1	-2	2	0	0	1
2	0	1	-1	1	-1	2	-3	0	0	-2	1	0	1	0	1
-1	2	2	0	-1	-1	1	-1	-1	-2	0	0	1	1	0	1
0	1	0	2	-2	-1	1	0	-2	-1	0	-1	1	2	-1	3
-1	2	0	-1	2	-1	1	1	-2	0	-1	-2	1	2	-2	1

Image After Decompression:

88	88	88	89	90	91	92	93	94	95	93	95	96	98	97	94

93	91	91	90	92	93	94	94	95	95	92	93	95	95	95	96
95	95	95	95	96	97	94	96	97	96	98	97	98	99	95	97
97	96	98	97	98	94	95	97	99	100	99	101	100	100	98	98
99	100	97	99	100	100	98	98	100	101	100	99	101	102	99	100
100	101	100	99	101	102	99	100	103	102	103	101	101	100	102	101
100	102	103	101	101	100	102	103	103	105	104	104	103	104	104	103
103	105	103	105	105	104	104	104	102	101	100	100	100	101	102	103
104	104	105	105	105	104	104	106	102	103	101	101	102	101	102	102
102	105	105	105	106	104	106	104	103	101	100	100	101	102	102	103
102	105	105	105	106	104	106	104	103	101	100	100	101	102	102	103
102	105	105	105	106	104	105	104	103	101	102	100	102	102	102	103
104	105	106	105	106	104	106	103	103	102	100	100	101	102	102	103
103	105	107	107	106	104	106	104	103	101	100	100	101	102	102	103
103	105	106	108	106	104	106	105	103	101	101	100	101	103	102	105
102	105	105	105	106	104	106	107	104	103	102	100	101	104	102	104

Stats:

Compression Ratio: 2048 / 747 = 2.741633
Bits/Pixel: 8 / 2.741633 = 2.917969
RMS Error: 0

Predictor 6:

Image After Compression:

88	0	0	1	1	1	1	1	1	1	-2	2	1	2	-1	-3
5	1	2	0	2	1	1	0	1	0	-1	-2	0	-3	-1	3
2	3	2	3	2	2	-2	2	1	0	6	1	1	3	-2	1
2	0	3	1	1	-4	2	1	2	3	-1	4	0	0	3	0
2	3	-3	2	1	5	0	0	1	1	1	-2	2	2	0	2
1	1	3	-1	1	2	0	2	2	0	3	1	-1	-2	4	0
0	1	3	1	-1	-2	4	2	-1	3	0	3	1	3	0	1
3	2	-1	4	2	2	0	0	-1	-4	-2	-2	-1	-2	-1	1
1	-1	2	-1	0	0	0	2	-1	2	0	1	2	-1	0	-1
-2	2	0	0	1	0	2	-3	2	-2	0	-1	-1	1	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	-1	0	0	0	2	-1	1	0	0	0
2	-1	1	0	0	0	1	-1	0	1	-2	1	-1	0	0	0
-1	0	1	2	-1	0	0	1	0	-1	0	0	0	0	0	0
0	0	-1	1	0	0	0	1	0	0	1	0	0	1	0	2
-1	0	-1	-3	1	0	0	2	0	2	0	0	0	1	0	-1

Image After Huffman Encoding:

0101100011000000000000000101101000001000110101011
0101010100000100101000000100101110101110101011011010100
0100010100010001010001000100010111010000101010101010000000101000101100
0100101010000000101010110100000100010100011010101001101010001
0100010100010101110100000101010100110000000101101000100101000
0000010100011000100101000100101010000011010111010101001
1000101000001101011010101000100011010100101010000010100100
0101000100011010101000100010011011010101011010110101101101101100

000110100011111010001101001000100011101 1
0101101001100101000101011010001011101101100100
1111111111111111
1111110111110100011001 11
0100011001110001110001011000111111
0111000100011110010111111111
1101100111001100110010100
0111011010101100110100101001110010 11

Image After Huffman Decoding:

88	0	0	1	1	1	1	1	1	1	-2	2	1	2	-1	-3
5	1	2	0	2	1	1	0	1	0	-1	-2	0	-3	-1	3
2	3	2	3	2	2	-2	2	1	0	6	1	1	3	-2	1
2	0	3	1	1	-4	2	1	2	3	-1	4	0	0	3	0
2	3	-3	2	1	5	0	0	1	1	1	-2	2	2	0	2
1	1	3	-1	1	2	0	2	2	0	3	1	-1	-2	4	0
0	1	3	1	-1	-2	4	2	-1	3	0	3	1	3	0	1
3	2	-1	4	2	2	0	0	-1	-4	-2	-2	-1	-2	-1	1
1	-1	2	-1	0	0	0	2	-1	2	0	1	2	-1	0	-1
-2	2	0	0	1	0	2	-3	2	-2	0	-1	-1	1	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	-1	0	0	0	2	-1	1	0	0	0
2	-1	1	0	0	0	1	-1	0	1	-2	1	-1	0	0	0
-1	0	1	2	-1	0	0	1	0	-1	0	0	0	0	0	0
0	0	-1	1	0	0	0	1	0	0	1	0	0	1	0	2
-1	0	-1	-3	1	0	0	2	0	2	0	0	0	1	0	-1

Image After Decompression:

88	88	88	89	90	91	92	93	94	95	93	95	96	98	97	94
93	91	91	90	92	93	94	94	95	95	92	93	95	95	95	96
95	95	95	95	96	97	94	96	97	96	98	97	98	99	95	97
97	96	98	97	98	94	95	97	99	100	99	101	100	100	98	98
99	100	97	99	100	100	98	98	100	101	100	99	101	102	99	100
100	101	100	99	101	102	99	100	103	102	103	101	101	100	102	101
100	102	103	101	101	100	102	103	103	105	104	104	103	104	104	103
103	105	103	105	105	104	104	104	102	101	100	100	100	101	102	103
104	104	105	105	105	104	104	106	102	103	101	101	102	101	102	102
102	105	105	105	106	104	106	104	103	101	100	100	101	102	102	103
102	105	105	105	106	104	106	104	103	101	100	100	101	102	102	103
102	105	105	105	106	104	105	104	103	101	102	100	102	102	102	103
104	105	106	105	106	104	106	103	103	102	100	100	101	102	102	103
103	105	107	107	106	104	106	104	103	101	100	100	101	102	102	103
103	105	106	108	106	104	106	105	103	101	101	100	101	103	102	105
102	105	105	105	106	104	106	107	104	103	102	100	101	104	102	104

Stats:

Compression Ratio: 2048 / 716 = 2.860335
Bits/Pixel: 8 / 2.860335 = 2.796875
RMS Error: 0

Predictor 7:

Image After Compression:

88	0	0	1	1	1	1	1	1	1	-2	2	1	2	-1	-3
5	1	2	0	2	2	2	1	1	0	-2	0	1	-1	-1	2
2	2	2	3	3	3	-1	2	2	0	4	2	2	3	-2	2
2	0	3	1	2	-3	1	2	2	3	0	3	1	1	1	1
2	3	-2	2	2	3	1	1	2	1	0	-1	2	2	-1	2
1	1	1	0	2	2	-1	2	3	0	2	0	0	-1	3	0
0	2	2	0	0	-1	3	2	0	3	0	2	1	3	1	1
3	3	-1	3	2	2	1	1	-1	-2	-2	-2	-1	-1	0	1
1	0	2	0	0	0	0	2	-2	2	0	1	2	0	1	0
-2	2	0	0	1	-1	2	-2	0	-2	-1	0	0	1	0	1
0	2	0	0	1	-1	1	-1	0	-1	0	0	1	1	0	1
0	2	0	0	1	-1	0	0	0	-1	2	-1	2	0	0	1
2	1	1	0	1	-1	2	-2	0	0	-2	0	0	1	0	1
-1	1	2	1	0	-1	1	0	0	-1	0	0	1	1	0	1
0	1	0	2	-1	-1	1	0	-1	-1	1	0	1	2	0	3
-1	2	0	-1	1	-1	1	2	-1	1	0	-1	1	2	-1	1

Image After Huffman Encoding:

0101100011000000000000000010110100000100011010101 1
0101010100000100101000100010000001010111000110110100
0100010001000101000101000101000110100010010101010001000100010100010110100
0100101010000010001010110001000100010100101010000000000
0100010100010111010001000101000000010000101110100010001101000
0000001010001000110100010100101001101101010010
1010001001101101010001001010100101010000010100000 0
0101000101000110101000100010000000110101101011010110111011100
0010100111101000101101001000100100 1
0101101001100011010001011101011011110010 0
1010011000110001110111100001 00
1010011000111110110100011010011 00
0100000010001101000101111010111100100
0110001000010110011011110000100
1001010001101100101101100100010010101 00
0110100101100011000100011001011000100011 00

Image After Huffman Decoding:

88	0	0	1	1	1	1	1	1	1	-2	2	1	2	-1	-3
5	1	2	0	2	2	2	1	1	0	-2	0	1	-1	-1	2
2	2	2	3	3	3	-1	2	2	0	4	2	2	3	-2	2
2	0	3	1	2	-3	1	2	2	3	0	3	1	1	1	1
2	3	-2	2	2	3	1	1	2	1	0	-1	2	2	-1	2
1	1	1	0	2	2	-1	2	3	0	2	0	0	-1	3	0
0	2	2	0	0	-1	3	2	0	3	0	2	1	3	1	1
3	3	-1	3	2	2	1	1	-1	-2	-2	-2	-1	-1	0	1
1	0	2	0	0	0	0	2	-2	2	0	1	2	0	1	0
-2	2	0	0	1	-1	2	-2	0	-2	-1	0	0	1	0	1
0	2	0	0	1	-1	1	-1	0	-1	0	0	1	1	0	1
0	2	0	0	1	-1	0	0	0	-1	2	-1	2	0	0	1

2	1	1	0	1	-1	2	-2	0	0	-2	0	0	1	0	1
-1	1	2	1	0	-1	1	0	0	-1	0	0	1	1	0	1
0	1	0	2	-1	-1	1	0	-1	-1	1	0	1	2	0	3
-1	2	0	-1	1	-1	1	2	-1	1	0	-1	1	2	-1	1

Image After Decompression:

88	88	88	89	90	91	92	93	94	95	93	95	96	98	97	94
93	91	91	90	92	93	94	94	95	95	92	93	95	95	95	96
95	95	95	95	96	97	94	96	97	96	98	97	98	99	95	97
97	96	98	97	98	94	95	97	99	100	99	101	100	100	98	98
99	100	97	99	100	100	98	98	100	101	100	99	101	102	99	100
100	101	100	99	101	102	99	100	103	102	103	101	101	100	102	101
100	102	103	101	101	100	102	103	103	105	104	104	103	104	104	103
103	105	103	105	105	104	104	104	102	101	100	100	100	101	102	103
104	104	105	105	105	104	104	106	102	103	101	101	102	101	102	102
102	105	105	105	106	104	106	104	103	101	100	100	101	102	102	103
102	105	105	105	106	104	106	104	103	101	100	100	101	102	102	103
102	105	105	105	106	104	105	104	103	101	102	100	102	102	102	103
104	105	106	105	106	104	106	103	103	102	100	100	101	102	102	103
103	105	107	107	106	104	106	104	103	101	100	100	101	102	102	103
103	105	106	108	106	104	106	105	103	101	101	100	101	103	102	105
102	105	105	105	106	104	106	107	104	103	102	100	101	104	102	104

Stats:

Compression Ratio: 2048 / 728 = 2.813187
Bits/Pixel: 8 / 2.813187 = 2.84375
RMS Error: 0

Summary:

	P_1	P_2	P_3	P_4	P_5	P_6	P_7
Compression Ratio	2.635779	2.592405	2.158061	2.563204	2.741633	2.860335	2.813187
Bits/Pixel	3.035156	3.085938	3.707031	3.121094	2.917969	2.796875	2.84375
RMS Error	0	0	0	0	0	0	0

Conclusion:

I was able to achieve the maximum compression ratio of 2.860335 with predictor P_6; This coincided with the fewest bits/pixel of 2.796875. The worst performing predictor was P_3, with a compression ratio of 2.158061 and the maximum bits/pixel of 3.707031. In each case, I was able to retrieve the original image exactly how it was and therefore had an rms error of 0 in each case.