```
clear all
close all

H = 100;
Component_latency = 25;
WIDTH = 24;
FRACT = 15;
SIGN = 0;

%read files
myfile = fopen('input.txt','r');
line_in = fgetl(myfile);
a = fi(0,SIGN,WIDTH,FRACT);
index = 1;
while ischar(line_in)
    a.bin = line_in;
    my_test_vectors(index) = a;
    disp([num2str(index) ' : ' line_in ' = ' num2str(a)])
    index = index + 1;
    line_in = fgetl(myfile);
end
fclose(myfile);
%Find the actual sqrt of the input
for i=1:H
    input = my_test_vectors(i);
    mVect(i) = 1/(sqrt(input));
end

%Read in the zeroth interation output
vVect0 = readoutput('Output0.txt',SIGN,WIDTH,FRACT);
vVect1 = readoutput('Output1.txt',SIGN,WIDTH,FRACT);
vVect2 = readoutput('Output2.txt',SIGN,WIDTH,FRACT);
vVect3 = readoutput('Output3.txt',SIGN,WIDTH,FRACT);
vVect4 = readoutput('Output4.txt',SIGN,WIDTH,FRACT);
vVect5 = readoutput('Output5.txt',SIGN,WIDTH,FRACT);

disp('Error perctange')
%Find error between matlab vs vhdl zero iterations
error = error_function(mVect,vVect0,H);
error1 = error_function(mVect,vVect1,H);
error2 = error_function(mVect,vVect2,H);
error3 = error_function(mVect,vVect3,H);
error4 = error_function(mVect,vVect4,H);
error5 = error_function(mVect,vVect5,H);


%-------------------------------------------------------------------------
disp('Matlab actual data')
mVect.data

disp('-----------------------------------------------------------------')
disp('Y0')
```

```
vVect0.data
disp('Possible Error')
error.data


disp('-----------------------------------------------------------------')
disp('Iteration 1')
vVect1.data
disp('Error Percantage')
error1.data


disp('-----------------------------------------------------------------')
disp('Iteration 2')
vVect2.data
disp('Possible Error')
error2.data

disp('-----------------------------------------------------------------')
disp('Iteration 3')
vVect3.data
disp('Possible Error')
error3.data

disp('-----------------------------------------------------------------')
disp('Iteration 4')
vVect4.data
disp('Possible Error')
error4.data


disp('-----------------------------------------------------------------')
disp('Iteration 5')
vVect5.data
disp('Possible Error')
error5.data

plot(0,error.double,'o');
title('Percent error per Iteration')
xlabel('N iteration')
ylabel('Error')
hold on
plot(1,error1.double,'o');
plot(2,error2.double,'o');
plot(3,error3.double,'o');
plot(4,error4.double,'o');
plot(5,error5.double,'o');
hold off

1 : 00000000100000000000000 = 1
2 : 00000010000000000000000 = 4
3 : 00000100100000000000000 = 9
4 : 00010011100011110100101 1 = 39.1195
5 : 10100011111100001011100 0 = 327.8806
```

6 : 011111010110100110011111 = 250.8252
7 : 111000110010101011101111 = 454.3354
8 : 100000111101100011110100 = 263.6949
9 : 111101000000111110110010 = 488.1226
10 : 000011001110101010110111 = 25.8337
11 : 110110111000011100000010 = 439.0547
12 : 101101100110000001100010 = 364.753
13 : 011001011000001100011100 = 203.0243
14 : 001000110111100011010111 = 70.9441
15 : 011110101001111100010100 = 245.2428
16 : 001010111110001000011100 = 87.7665
17 : 111010111110010000000000 = 471.7813
18 : 111010111110110011010010 = 471.8502
19 : 001111101100100110101001 = 125.5755
20 : 001100101100011110000101 = 101.5587
21 : 010000110010101111001101 = 134.3422
22 : 110011101110111110010011 = 413.8717
23 : 110001101000111101111110 = 397.121
24 : 011100101011101111010101 = 229.4674
25 : 001101110011100100110011 = 110.4469
26 : 100111010010110111001011 = 314.3578
27 : 110010001100000110111110 = 401.5136
28 : 011010011100011111001100 = 211.5609
29 : 001011100111000100110101 = 92.8844
30 : 010010010000011011100001 = 146.0537
31 : 000111001001111010010111 = 57.239
32 : 010111111100110011111111 = 191.6015
33 : 010101110011100100100001 = 174.4463
34 : 011000110111111011101011 = 198.9915
35 : 011010111010111011101010 = 215.3665
36 : 100010000100001011101110 = 272.5229
37 : 100101111000000000100111 = 303.0012
38 : 111001011111010101001011 = 459.9164
39 : 100011110001110101110000 = 286.23
40 : 011100101110001010000001 = 229.7696
41 : 011100110011010101111100 = 230.4178
42 : 110011010001101111010100 = 410.2174
43 : 101001111101111111000111 = 335.7483
44 : 010110010111000110001000 = 178.887
45 : 100100101101111111111000 = 293.7498
46 : 100101111100001101000010 = 303.5255
47 : 110011101100100001010100 = 413.5651
48 : 100000111100010111110100 = 263.5465
49 : 101100001011111011100001 = 353.4912
50 : 001001101101001101111001 = 77.6521
51 : 000001110010111000010100 = 14.36
52 : 011010110001111100100111 = 214.2434
53 : 011011010100011101010111 = 218.5573
54 : 010001101010100010011010 = 141.3172
55 : 000111100010100100101101 = 60.3217
56 : 110010011101100011100001 = 403.6944
57 : 001110100000100101000111 = 116.0725
58 : 101110011010001010101001 = 371.2708
59 : 111110010000101111111110 = 498.0937

```
60 : 10010100000111100010111 = 296.2351
61 : 11110011100110111000100 = 487.2152
62 : 01001000111111001000000 = 145.9727
63 : 11010101110000000111001 = 427.5017
64 : 11111011001100011111111 = 502.3906
65 : 11001001010001100100100 = 402.5491
66 : 10100001001001001111010 = 322.2889
67 : 00000011011001100100101 = 6.7991
68 : 10010001101110100110011 = 291.4562
69 : 11101110100101000011100 = 477.1571
70 : 00100000001100000100100 = 64.3772
71 : 11101010101100000100000 = 469.377
72 : 01000110010001100110011 = 140.55
73 : 10100111000100001110100 = 334.1324
74 : 10110111010001000110111 = 366.5346
75 : 11011000110101100001100 = 433.6726
76 : 10010100010111010001000 = 296.7271
77 : 01100000010010001001000 = 192.5669
78 : 01101001100101111010100 = 211.1862
79 : 11111101010000010001000 = 506.5083
80 : 01110110110011100001010 = 237.61
81 : 11001011011110100100110 = 406.9554
82 : 11001010011101001011110 = 404.912
83 : 00011010101000111011110 = 53.2792
84 : 00001000001100111010011 = 16.4035
85 : 00101101001101011101011 = 90.4206
86 : 11100000101100100100111 = 449.393
87 : 10010111110001101100111 = 303.5532
88 : 10101100010100011100011 = 344.6389
89 : 01011000001111000111110 = 176.4726
90 : 10111111100010111000011 = 383.0899
91 : 11111111011111100111111 = 510.9883
92 : 11000001110000100000101 = 387.516
93 : 10011100011110110110000 = 312.9639
94 : 10011100010001011000010 = 312.5431
95 : 00001110100001001001011 = 29.0358
96 : 01110110100101101100101 = 237.1781
97 : 11100110110000111000101 = 461.5276
98 : 01000110001101000110011 = 140.4094
99 : 10111100001111000101000 = 376.4712
100 : 10000100101100111001011 = 265.403
101 : 00000000000000000000000 = 0
102 : 00000000000000000000000 = 0
103 : 00000000000000000000000 = 0
104 : 00000000000000000000000 = 0
105 : 00000000000000000000000 = 0
106 : 00000000000000000000000 = 0
107 : 00000000000000000000000 = 0
108 : 00000000000000000000000 = 0
109 : 00000000000000000000000 = 0
110 : 00000000000000000000000 = 0
111 : 00000000000000000000000 = 0
112 : 00000000000000000000000 = 0
----------------------------------------
```

```
Reading in values from file output.txt
1 : UUUUUUUUUUUUUUUUUUUUUUUU ~~ Ignoring line since it contains non-
binary std_logic characters
1 : UUUUUUUUUUUUUUUUUUUUUUUU ~~ Ignoring line since it contains non-
binary std_logic characters
1 : UUUUUUUUUUUUUUUUUUUUUUUU ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : 000000001000000000000000 = 1
2 : 000000000100000000000000 = 0.5
3 : 000000000010101001010001 = 0.3306
4 : 000000000001010001101001 = 0.15945
5 : 000000000000011100011111 = 0.055634
6 : 000000000000100000011000 = 0.063232
7 : 000000000000010111111101 = 0.046783
8 : 000000000000011111101010 = 0.061829
9 : 000000000000010111010110 = 0.045593
10 : 000000000001100100000110 = 0.1955
11 : 000000000000011000011011 = 0.047699
12 : 000000000000011010101101 = 0.052155
13 : 000000000000100011101011 = 0.069672
14 : 000000000000111100111101 = 0.11905
15 : 000000000000100000010101 = 0.063141
16 : 000000000000110110110110 = 0.10712
17 : 000000000000010111011111 = 0.045868
18 : 000000000000010111011111 = 0.045868
19 : 000000000000101110000110 = 0.090027
20 : 000000000000110010110001 = 0.099152
21 : 000000000000101011111001 = 0.085724
22 : 000000000000011001000011 = 0.04892
23 : 000000000000011001100101 = 0.049957
24 : 000000000000100001011001 = 0.065216
25 : 000000000000110001001011 = 0.096039
26 : 000000000000011100110110 = 0.056335
27 : 000000000000011001011111 = 0.049774
28 : 000000000000100010110110 = 0.068054
29 : 000000000000110100111101 = 0.10342
30 : 000000000000101010000111 = 0.082245
31 : 000000000001000011111010 = 0.13263
32 : 000000000000100100110101 = 0.07193
33 : 000000000000100110110011 = 0.075775
34 : 000000000000100100000100 = 0.070435
35 : 000000000000100010111001 = 0.068146
36 : 000000000000011111001000 = 0.060791
37 : 000000000000011101010010 = 0.05719
```

```
38 : 00000000000010111110011 = 0.046478
39 : 00000000000011110001011 = 0.058929
40 : 00000000000100001011100 = 0.065308
41 : 00000000000100001100010 = 0.065491
42 : 00000000000011001001110 = 0.049255
43 : 00000000000011100001011 = 0.055023
44 : 00000000000100110010100 = 0.074829
45 : 00000000000011110000110 = 0.058777
46 : 00000000000011101010101 = 0.057281
47 : 00000000000011001000010 = 0.048889
48 : 00000000000011111101001 = 0.061798
49 : 00000000000011011010000 = 0.053223
50 : 00000000000111010001110 = 0.11371
51 : 00000000010000101110010 = 0.26129
52 : 00000000000100010101101 = 0.06778
53 : 00000000000100010001101 = 0.066803
54 : 00000000000101011000101 = 0.084137
55 : 00000000001000010010001 = 0.12943
56 : 00000000000011001100111 = 0.050018
57 : 00000000000101111001001 = 0.092072
58 : 00000000000011010011101 = 0.051666
59 : 00000000000010110110110 = 0.044617
60 : 00000000000011101110010 = 0.058167
61 : 00000000000010111010011 = 0.045502
62 : 00000000000101010011111 = 0.082977
63 : 00000000000011000101000 = 0.048096
64 : 00000000000010111000011 = 0.045013
65 : 00000000000011001100011 = 0.049896
66 : 00000000000011100101000 = 0.055908
67 : 00000000011000101001011 = 0.3851
68 : 00000000000011110001010 = 0.058899
69 : 00000000000010111010011 = 0.045502
70 : 00000000000111111110111 = 0.12473
71 : 00000000000010111110101 = 0.046539
72 : 00000000000101010110110 = 0.083679
73 : 00000000000011100000011 = 0.054779
74 : 00000000000011010110101 = 0.052399
75 : 00000000000011000100011 = 0.047943
76 : 00000000000011101110101 = 0.058258
77 : 00000000000100100011111 = 0.071259
78 : 00000000000100010110011 = 0.067963
79 : 00000000000010110110000 = 0.044434
80 : 00000000000100001010001 = 0.064972
81 : 00000000000011001011011 = 0.049652
82 : 00000000000011001101100 = 0.050171
83 : 00000000001000110001111 = 0.13718
84 : 00000000001111111000111 = 0.24826
85 : 00000000000110101101011 = 0.10483
86 : 00000000000011000001000 = 0.047119
87 : 00000000000011101010101 = 0.057281
88 : 00000000000011011100110 = 0.053894
89 : 00000000000100110010010 = 0.074768
90 : 00000000000011010001011 = 0.051117
91 : 00000000000010110111100 = 0.0448
```

```
92 : 000000000000011010000111 = 0.050995
------------------------------------------
Reading in values from file output.txt
1 : UUUUUUUUUUUUUUUUUUUUUUUU ~~ Ignoring line since it contains non-
binary std_logic characters
1 : UUUUUUUUUUUUUUUUUUUUUUUU ~~ Ignoring line since it contains non-
binary std_logic characters
1 : UUUUUUUUUUUUUUUUUUUUUUUU ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
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binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : 000000001000000000000000 = 1
2 : 000000000100000000000000 = 0.5
3 : 000000000010101010101001 = 0.33328
4 : 000000000001010001110111 = 0.15988
5 : 000000000000011100010001 = 0.055206
6 : 000000000000100000010101 = 0.063141
7 : 000000000000011000000001 = 0.046906
8 : 000000000000011111100001 = 0.061554
9 : 000000000000010111001011 = 0.045258
10 : 000000000001100100101110 = 0.19672
11 : 000000000000011000011011 = 0.047699
12 : 000000000000011010110011 = 0.052338
13 : 000000000000100011111011 = 0.07016
14 : 000000000000111100110010 = 0.11871
15 : 000000000000100000101100 = 0.063843
16 : 000000000000110110101001 = 0.10672
17 : 000000000000010111100100 = 0.046021
18 : 000000000000010111100100 = 0.046021
19 : 000000000000101101101011 = 0.089203
20 : 000000000000110010110011 = 0.099213
21 : 000000000000101100001010 = 0.086243
22 : 000000000000011001001010 = 0.049133
23 : 000000000000011001101100 = 0.050171
```

```
24 : 00000000000100001110010 = 0.065979
25 : 00000000000110000101101 = 0.095123
26 : 00000000000011100111000 = 0.056396
27 : 00000000000011001100011 = 0.049896
28 : 00000000000100011001100 = 0.068726
29 : 00000000000110101000111 = 0.10373
30 : 00000000000101010010111 = 0.082733
31 : 00000000001000011101011 = 0.13217
32 : 00000000000100100111111 = 0.072235
33 : 00000000000100110110000 = 0.075684
34 : 00000000000100100010010 = 0.070862
35 : 00000000000100010111000 = 0.068115
36 : 00000000000011111000000 = 0.060547
37 : 00000000000011101011010 = 0.057434
38 : 00000000000010111110111 = 0.0466
39 : 00000000000011110010000 = 0.059082
40 : 00000000000100001110001 = 0.065948
41 : 00000000000100001101110 = 0.065857
42 : 00000000000011001010001 = 0.049347
43 : 00000000000011011111100 = 0.054565
44 : 00000000000100110010001 = 0.074738
45 : 00000000000011101110111 = 0.058319
46 : 00000000000011101011000 = 0.057373
47 : 00000000000011001001011 = 0.049164
48 : 00000000000011111100010 = 0.061584
49 : 00000000000011011001110 = 0.053162
50 : 00000000000111010000110 = 0.11346
51 : 00000000001000011000101 = 0.26382
52 : 00000000000100010111110 = 0.068298
53 : 00000000000100010100111 = 0.067596
54 : 00000000000101011000100 = 0.084106
55 : 00000000001000001111010 = 0.12872
56 : 00000000000011001011110 = 0.049744
57 : 00000000000101111100001 = 0.092804
58 : 00000000000011010100100 = 0.05188
59 : 00000000000010110111100 = 0.0448
60 : 00000000000011101101111 = 0.058075
61 : 00000000000010111001100 = 0.045288
62 : 00000000000101010011000 = 0.082764
63 : 00000000000011000110000 = 0.04834
64 : 00000000000010110110101 = 0.044586
65 : 00000000000011001100001 = 0.049835
66 : 00000000000011100100001 = 0.055695
67 : 00000000011000100010110 = 0.38348
68 : 00000000000011101111111 = 0.058563
69 : 00000000000010111011100 = 0.045776
70 : 00000000000111111110011 = 0.1246
71 : 00000000000010111101000 = 0.046143
72 : 00000000000101011001011 = 0.08432
73 : 00000000000011100000000 = 0.054688
74 : 00000000000011010101111 = 0.052216
75 : 00000000000011000100101 = 0.048004
76 : 00000000000011101101110 = 0.058044
77 : 00000000000100100111000 = 0.072021
```

```
78 : 000000000000100011001110 = 0.068787
79 : 000000000000010110101111 = 0.044403
80 : 000000000000100001001101 = 0.06485
81 : 000000000000011001011000 = 0.049561
82 : 000000000000011001011100 = 0.049683
83 : 000000000001000110001001 = 0.13699
84 : 000000000001111110011010 = 0.24689
85 : 000000000000110101110101 = 0.10513
86 : 000000000000011000001001 = 0.04715
87 : 000000000000011101011000 = 0.057373
------------------------------------------
Reading in values from file output.txt
1 : UUUUUUUUUUUUUUUUUUUUUUUU ~~ Ignoring line since it contains non-
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1 : UUUUUUUUUUUUUUUUUUUUUUUU ~~ Ignoring line since it contains non-
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1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
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binary std_logic characters
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binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : 000000001000000000000000 = 1
2 : 000000000100000000000000 = 0.5
3 : 000000000010101010101010 = 0.33331
4 : 000000000001010001110111 = 0.15988
```

```
5 : 000000000000011100010001 = 0.055206
6 : 000000000000100000010101 = 0.063141
7 : 000000000000011000000001 = 0.046906
8 : 000000000000011111100001 = 0.061554
9 : 000000000000010111001011 = 0.045258
10 : 000000000001100100101110 = 0.19672
11 : 000000000000011000011011 = 0.047699
12 : 000000000000011010110011 = 0.052338
13 : 000000000000100011111011 = 0.07016
14 : 000000000000111100110010 = 0.11871
15 : 000000000000100000101100 = 0.063843
16 : 000000000000110110101001 = 0.10672
17 : 000000000000010111100100 = 0.046021
18 : 000000000000010111100100 = 0.046021
19 : 000000000000101101101100 = 0.089233
20 : 000000000000110010110011 = 0.099213
21 : 000000000000101100001011 = 0.086273
22 : 000000000000011001001010 = 0.049133
23 : 000000000000011001101100 = 0.050171
24 : 000000000000100001110011 = 0.06601
25 : 000000000000110000101101 = 0.095123
26 : 000000000000011100111000 = 0.056396
27 : 000000000000011001100011 = 0.049896
28 : 000000000000100011001100 = 0.068726
29 : 000000000000110101000111 = 0.10373
30 : 000000000000101010010111 = 0.082733
31 : 000000000001000011101011 = 0.13217
32 : 000000000000100100111111 = 0.072235
33 : 000000000000100110110000 = 0.075684
34 : 000000000000100100010010 = 0.070862
35 : 000000000000100010111000 = 0.068115
36 : 000000000000011111000000 = 0.060547
37 : 000000000000011101011010 = 0.057434
38 : 000000000000010111110111 = 0.0466
39 : 000000000000011110010000 = 0.059082
40 : 000000000000100001110001 = 0.065948
41 : 000000000000100001101110 = 0.065857
42 : 000000000000011001010001 = 0.049347
43 : 000000000000011011111100 = 0.054565
44 : 000000000000100110010001 = 0.074738
45 : 000000000000011101110111 = 0.058319
46 : 000000000000011101011000 = 0.057373
47 : 000000000000011001001011 = 0.049164
48 : 000000000000011111100010 = 0.061584
49 : 000000000000011011001110 = 0.053162
50 : 000000000000111010000110 = 0.11346
51 : 000000000010000111000111 = 0.26389
52 : 000000000000100010111110 = 0.068298
53 : 000000000000100010101000 = 0.067627
54 : 000000000000101011000100 = 0.084106
55 : 000000000001000001111011 = 0.12875
56 : 000000000000011001011110 = 0.049744
57 : 000000000000101111100001 = 0.092804
58 : 000000000000011010100100 = 0.05188
```

```
59 : 00000000000010110111100 = 0.0448
60 : 00000000000011101101111 = 0.058075
61 : 00000000000010111001100 = 0.045288
62 : 00000000000101010011000 = 0.082764
63 : 00000000000011000110000 = 0.04834
64 : 00000000000010110110101 = 0.044586
65 : 00000000000011001100001 = 0.049835
66 : 00000000000011100100001 = 0.055695
67 : 00000000011000100010110 = 0.38348
68 : 00000000000011101111111 = 0.058563
69 : 00000000000010111011100 = 0.045776
70 : 00000000000111111110011 = 0.1246
71 : 00000000000010111101000 = 0.046143
72 : 00000000000101011001011 = 0.08432
73 : 00000000000011100000000 = 0.054688
74 : 00000000000011010101111 = 0.052216
75 : 00000000000011000100101 = 0.048004
76 : 00000000000011101101110 = 0.058044
77 : 00000000000100100111001 = 0.072052
78 : 00000000000100011001110 = 0.068787
79 : 00000000000010110101111 = 0.044403
80 : 00000000000100001001101 = 0.06485
81 : 00000000000011001011000 = 0.049561
82 : 00000000000011001011100 = 0.049683
83 : 00000000001000110001001 = 0.13699
84 : 00000000001111110011010 = 0.24689
85 : 00000000000110101110110 = 0.10516
86 : 00000000000011000001001 = 0.04715
87 : 00000000000011101011000 = 0.057373
88 : 00000000000011011100101 = 0.053864
89 : 00000000000100110100010 = 0.075256
90 : 00000000000011010001010 = 0.051086
91 : 00000000000010110101001 = 0.04422
92 : 00000000000011010000000 = 0.050781
93 : 00000000000011100111100 = 0.056519
----------------------------------------
Reading in values from file output.txt
1 : UUUUUUUUUUUUUUUUUUUUUUUU ~~ Ignoring line since it contains non-
binary std_logic characters
1 : UUUUUUUUUUUUUUUUUUUUUUUU ~~ Ignoring line since it contains non-
binary std_logic characters
1 : UUUUUUUUUUUUUUUUUUUUUUUU ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
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binary std_logic characters
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binary std_logic characters
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binary std_logic characters
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1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
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binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : 000000001000000000000000 = 1
2 : 000000000100000000000000 = 0.5
3 : 000000000010101010101010 = 0.33331
4 : 000000000001010001110111 = 0.15988
5 : 000000000000011100010001 = 0.055206
6 : 000000000000100000010101 = 0.063141
7 : 000000000000011000000001 = 0.046906
8 : 000000000000011111100001 = 0.061554
9 : 000000000000010111001011 = 0.045258
10 : 000000000001100100101110 = 0.19672
11 : 000000000000011000011011 = 0.047699
12 : 000000000000011010110011 = 0.052338
13 : 000000000000100011111011 = 0.07016
14 : 000000000000111100110010 = 0.11871
15 : 000000000000100000101100 = 0.063843
16 : 000000000000110110101001 = 0.10672
17 : 000000000000010111100100 = 0.046021
18 : 000000000000010111100100 = 0.046021
19 : 000000000000101101101100 = 0.089233
20 : 000000000000110010110011 = 0.099213
21 : 000000000000101100001011 = 0.086273
22 : 000000000000011001001010 = 0.049133
```

```
23 : 000000000000011001101100 = 0.050171
24 : 000000000000100001110011 = 0.06601
25 : 000000000000110000101101 = 0.095123
26 : 000000000000011100111000 = 0.056396
27 : 000000000000011001100011 = 0.049896
28 : 000000000000100011001100 = 0.068726
29 : 000000000000110101000111 = 0.10373
30 : 000000000000101010010111 = 0.082733
31 : 000000000001000011101011 = 0.13217
32 : 000000000000100100111111 = 0.072235
33 : 000000000000100110110000 = 0.075684
34 : 000000000000100100010010 = 0.070862
35 : 000000000000100010111000 = 0.068115
36 : 000000000000011111000000 = 0.060547
37 : 000000000000011101011010 = 0.057434
38 : 000000000000010111110111 = 0.0466
39 : 000000000000011110010000 = 0.059082
40 : 000000000000100001110001 = 0.065948
41 : 000000000000100001101110 = 0.065857
42 : 000000000000011001010001 = 0.049347
43 : 000000000000011011111100 = 0.054565
44 : 000000000000100110010001 = 0.074738
45 : 000000000000011101110111 = 0.058319
46 : 000000000000011101011000 = 0.057373
47 : 000000000000011001001011 = 0.049164
48 : 000000000000011111100010 = 0.061584
49 : 000000000000011011001110 = 0.053162
50 : 000000000000111010000110 = 0.11346
51 : 000000000010000111000111 = 0.26389
52 : 000000000000100010111110 = 0.068298
53 : 000000000000100010101000 = 0.067627
54 : 000000000000101011000100 = 0.084106
55 : 000000000001000001111011 = 0.12875
56 : 000000000000011001011110 = 0.049744
57 : 000000000000101111100001 = 0.092804
58 : 000000000000011010100100 = 0.05188
59 : 000000000000010110111100 = 0.0448
60 : 000000000000011101101111 = 0.058075
61 : 000000000000010111001100 = 0.045288
62 : 000000000000101010011000 = 0.082764
63 : 000000000000011000110000 = 0.04834
64 : 000000000000010110110101 = 0.044586
65 : 000000000000011001100001 = 0.049835
66 : 000000000000011100100001 = 0.055695
67 : 000000000011000100010110 = 0.38348
68 : 000000000000011101111111 = 0.058563
69 : 000000000000010111011100 = 0.045776
70 : 000000000000111111110011 = 0.1246
71 : 000000000000010111101000 = 0.046143
72 : 000000000000101011001011 = 0.08432
73 : 000000000000011100000000 = 0.054688
74 : 000000000000011010101111 = 0.052216
75 : 000000000000011000100101 = 0.048004
76 : 000000000000011101101110 = 0.058044
```

```
77 : 000000000000100100111001 = 0.072052
------------------------------------------
Reading in values from file output.txt
1 : UUUUUUUUUUUUUUUUUUUUUUUU ~~ Ignoring line since it contains non-binary std_logic characters
1 : UUUUUUUUUUUUUUUUUUUUUUUU ~~ Ignoring line since it contains non-binary std_logic characters
1 : UUUUUUUUUUUUUUUUUUUUUUUU ~~ Ignoring line since it contains non-binary std_logic characters
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```

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1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
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binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
1 : 000000001000000000000000 = 1
2 : 000000000100000000000000 = 0.5
3 : 000000000010101010101010 = 0.33331
4 : 000000000001010001110111 = 0.15988
5 : 000000000000011100010001 = 0.055206
6 : 000000000000100000010101 = 0.063141
7 : 000000000000011000000001 = 0.046906
8 : 000000000000011111100001 = 0.061554
9 : 000000000000010111001011 = 0.045258
10 : 000000000001100100101110 = 0.19672
11 : 000000000000011000011011 = 0.047699
12 : 000000000000011010110011 = 0.052338
13 : 000000000000100011111011 = 0.07016
14 : 000000000000111100110010 = 0.11871
15 : 000000000000100000101100 = 0.063843
16 : 000000000000110110101001 = 0.10672
17 : 000000000000010111100100 = 0.046021
18 : 000000000000010111100100 = 0.046021
19 : 000000000000101101101100 = 0.089233
20 : 000000000000110010110011 = 0.099213
21 : 000000000000101100001011 = 0.086273
22 : 000000000000011001001010 = 0.049133
23 : 000000000000011001101100 = 0.050171
24 : 000000000000100001110011 = 0.06601
25 : 000000000000110000101101 = 0.095123
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34 : 000000000000100100010010 = 0.070862
35 : 000000000000100010111000 = 0.068115
36 : 000000000000011111000000 = 0.060547
37 : 000000000000011101011010 = 0.057434
38 : 000000000000010111110111 = 0.0466
39 : 000000000000011110010000 = 0.059082
40 : 000000000000100001110001 = 0.065948
41 : 000000000000100001101110 = 0.065857
42 : 000000000000011001010001 = 0.049347
43 : 000000000000011011111100 = 0.054565
44 : 000000000000100110010001 = 0.074738
45 : 000000000000011101110111 = 0.058319
46 : 000000000000011101011000 = 0.057373
```

```
47 : 000000000000011001001011 = 0.049164
48 : 000000000000011111100010 = 0.061584
49 : 000000000000011011001110 = 0.053162
50 : 000000000000111010000110 = 0.11346
51 : 000000000010000111000111 = 0.26389
52 : 000000000000100010111110 = 0.068298
53 : 000000000000100010101000 = 0.067627
54 : 000000000000101011000100 = 0.084106
55 : 000000000001000001111011 = 0.12875
56 : 000000000000011001011110 = 0.049744
57 : 000000000000101111100001 = 0.092804
58 : 000000000000011010100100 = 0.05188
59 : 000000000000010110111100 = 0.0448
60 : 000000000000011101101111 = 0.058075
61 : 000000000000010111001100 = 0.045288
62 : 000000000000101010011000 = 0.082764
63 : 000000000000011000110000 = 0.04834
64 : 000000000000010110110101 = 0.044586
65 : 000000000000011001100001 = 0.049835
66 : 000000000000011100100001 = 0.055695
67 : 000000000011000100010110 = 0.38348
68 : 000000000000011101111111 = 0.058563
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------------------------------------------
Reading in values from file output.txt
1 : UUUUUUUUUUUUUUUUUUUUUUUU ~~ Ignoring line since it contains non-
binary std_logic characters
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binary std_logic characters
1 : XXXXXXXXXXXXXXXXXXXXXXXX ~~ Ignoring line since it contains non-
binary std_logic characters
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binary std_logic characters
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binary std_logic characters
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5 : 000000000000011100010001 = 0.055206
6 : 000000000000100000010101 = 0.063141
7 : 000000000000011000000001 = 0.046906
8 : 000000000000011111100001 = 0.061554
9 : 000000000000010111001011 = 0.045258
10 : 000000000001100100101110 = 0.19672
11 : 000000000000011000011011 = 0.047699
12 : 000000000000011010110011 = 0.052338
```

```
13 : 00000000000100011111011 = 0.07016
14 : 00000000000111100110010 = 0.11871
15 : 00000000000100000101100 = 0.063843
16 : 00000000000110110101001 = 0.10672
17 : 00000000000010111100100 = 0.046021
18 : 00000000000010111100100 = 0.046021
19 : 00000000000101101101100 = 0.089233
20 : 00000000000110010110011 = 0.099213
21 : 00000000000101100001011 = 0.086273
22 : 00000000000011001001010 = 0.049133
23 : 00000000000011001101100 = 0.050171
24 : 00000000000100001110011 = 0.06601
25 : 00000000000110000101101 = 0.095123
26 : 00000000000011100111000 = 0.056396
27 : 00000000000011001100011 = 0.049896
28 : 00000000000100011001100 = 0.068726
29 : 00000000000110101000111 = 0.10373
30 : 00000000000101010010111 = 0.082733
31 : 00000000001000011101011 = 0.13217
32 : 00000000000100100111111 = 0.072235
33 : 00000000000100110110000 = 0.075684
34 : 00000000000100100010010 = 0.070862
35 : 00000000000100010111000 = 0.068115
36 : 00000000000011111000000 = 0.060547
37 : 00000000000011101011010 = 0.057434
38 : 00000000000010111110111 = 0.0466
39 : 00000000000011110010000 = 0.059082
40 : 00000000000100001110001 = 0.065948
41 : 00000000000100001101110 = 0.065857
42 : 00000000000011001010001 = 0.049347
43 : 00000000000011011111100 = 0.054565
44 : 00000000000100110010001 = 0.074738
45 : 00000000000011101110111 = 0.058319
46 : 00000000000011101011000 = 0.057373
47 : 00000000000011001001011 = 0.049164
48 : 00000000000011111100010 = 0.061584
49 : 00000000000011011001110 = 0.053162
50 : 00000000000111010000110 = 0.11346
51 : 00000000010000111000111 = 0.26389
52 : 00000000000100010111110 = 0.068298
53 : 00000000000100010101000 = 0.067627
54 : 00000000000101011000100 = 0.084106
55 : 00000000001000001111011 = 0.12875
56 : 00000000000011001011110 = 0.049744
57 : 00000000000101111100001 = 0.092804
58 : 00000000000011010100100 = 0.05188
59 : 00000000000010110111100 = 0.0448
60 : 00000000000011101101111 = 0.058075
61 : 00000000000010111001100 = 0.045288
62 : 00000000000101010011000 = 0.082764
63 : 00000000000011000110000 = 0.04834
64 : 00000000000010110110101 = 0.044586
65 : 00000000000011001100001 = 0.049835
66 : 00000000000011100100001 = 0.055695
```

```
67 : 000000000011000100010110 = 0.38348
Error perctange
Matlab actual data

ans =

  Columns 1 through 7

    1.0000    0.5000    0.3359    0.1563    0.0547    0.0625    0.0469

  Columns 8 through 14

    0.0625    0.0469    0.1953    0.0469    0.0547    0.0703    0.1172

  Columns 15 through 21

    0.0625    0.1094    0.0469    0.0469    0.0859    0.1016    0.0859

  Columns 22 through 28

    0.0469    0.0469    0.0625    0.0938    0.0547    0.0469    0.0703

  Columns 29 through 35

    0.1016    0.0859    0.1328    0.0703    0.0781    0.0703    0.0703

  Columns 36 through 42

    0.0625    0.0547    0.0469    0.0625    0.0625    0.0625    0.0469

  Columns 43 through 49

    0.0547    0.0781    0.0547    0.0547    0.0469    0.0625    0.0547

  Columns 50 through 56

    0.1172    0.2656    0.0703    0.0703    0.0859    0.1250    0.0469

  Columns 57 through 63

    0.0938    0.0547    0.0469    0.0547    0.0469    0.0859    0.0469

  Columns 64 through 70

    0.0469    0.0469    0.0547    0.3828    0.0547    0.0469    0.1250

  Columns 71 through 77

    0.0469    0.0859    0.0547    0.0547    0.0469    0.0547    0.0703

  Columns 78 through 84

    0.0703    0.0469    0.0625    0.0469    0.0469    0.1406    0.2500
```

```
  Columns 85 through 91

    0.1016    0.0469    0.0547    0.0547    0.0781    0.0547    0.0469

  Columns 92 through 98

    0.0547    0.0547    0.0547    0.1875    0.0625    0.0469    0.0859

  Columns 99 through 100

    0.0547    0.0625

-----------------------------------------------------------------
Y0

ans =

  Columns 1 through 7

    1.0000    0.5000    0.3306    0.1595    0.0556    0.0632    0.0468

  Columns 8 through 14

    0.0618    0.0456    0.1955    0.0477    0.0522    0.0697    0.1190

  Columns 15 through 21

    0.0631    0.1071    0.0459    0.0459    0.0900    0.0992    0.0857

  Columns 22 through 28

    0.0489    0.0500    0.0652    0.0960    0.0563    0.0498    0.0681

  Columns 29 through 35

    0.1034    0.0822    0.1326    0.0719    0.0758    0.0704    0.0681

  Columns 36 through 42

    0.0608    0.0572    0.0465    0.0589    0.0653    0.0655    0.0493

  Columns 43 through 49

    0.0550    0.0748    0.0588    0.0573    0.0489    0.0618    0.0532

  Columns 50 through 56

    0.1137    0.2613    0.0678    0.0668    0.0841    0.1294    0.0500

  Columns 57 through 63

    0.0921    0.0517    0.0446    0.0582    0.0455    0.0830    0.0481

  Columns 64 through 70
```

```
    0.0450    0.0499    0.0559    0.3851    0.0589    0.0455    0.1247

  Columns 71 through 77

    0.0465    0.0837    0.0548    0.0524    0.0479    0.0583    0.0713

  Columns 78 through 84

    0.0680    0.0444    0.0650    0.0497    0.0502    0.1372    0.2483

  Columns 85 through 91

    0.1048    0.0471    0.0573    0.0539    0.0748    0.0511    0.0448

  Column 92

    0.0510

Possible Error

ans =

  Columns 1 through 7

         0         0    1.5625         0         0         0    0.3906

  Columns 8 through 14

    1.1719    2.7344         0         0    4.6875    0.7813         0

  Columns 15 through 21

         0    1.9531    2.3438    2.3438         0    2.3438    0.3906

  Columns 22 through 28

         0         0         0         0         0         0    3.1250

  Columns 29 through 35

         0    4.2969         0         0    3.1250         0    3.1250

  Columns 36 through 42

    2.7344         0    0.7813    5.8594         0         0         0

  Columns 43 through 49

         0    4.2969         0         0         0    1.1719    2.7344

  Columns 50 through 56

    3.1250    1.5625    3.5156    5.0781    1.9531         0         0
```

```
  Columns 57 through 63

    1.9531    5.4688    4.6875         0    3.1250    3.5156         0

  Columns 64 through 66

    3.9063         0         0

------------------------------------------------------------------
Iteration 1

ans =

  Columns 1 through 7

    1.0000    0.5000    0.3333    0.1599    0.0552    0.0631    0.0469

  Columns 8 through 14

    0.0616    0.0453    0.1967    0.0477    0.0523    0.0702    0.1187

  Columns 15 through 21

    0.0638    0.1067    0.0460    0.0460    0.0892    0.0992    0.0862

  Columns 22 through 28

    0.0491    0.0502    0.0660    0.0951    0.0564    0.0499    0.0687

  Columns 29 through 35

    0.1037    0.0827    0.1322    0.0722    0.0757    0.0709    0.0681

  Columns 36 through 42

    0.0605    0.0574    0.0466    0.0591    0.0659    0.0659    0.0493

  Columns 43 through 49

    0.0546    0.0747    0.0583    0.0574    0.0492    0.0616    0.0532

  Columns 50 through 56

    0.1135    0.2638    0.0683    0.0676    0.0841    0.1287    0.0497

  Columns 57 through 63

    0.0928    0.0519    0.0448    0.0581    0.0453    0.0828    0.0483

  Columns 64 through 70

    0.0446    0.0498    0.0557    0.3835    0.0586    0.0458    0.1246
```

```
  Columns 71 through 77

    0.0461    0.0843    0.0547    0.0522    0.0480    0.0580    0.0720

  Columns 78 through 84

    0.0688    0.0444    0.0648    0.0496    0.0497    0.1370    0.2469

  Columns 85 through 87

    0.1051    0.0471    0.0574

Error Percantage

ans =

  Columns 1 through 7

         0         0    0.7813         0         0         0         0

  Columns 8 through 14

    1.5625    3.5156         0         0    4.2969    0.3906         0

  Columns 15 through 21

         0    2.3438    1.9531    1.9531         0    2.3438         0

  Columns 22 through 28

         0         0         0         0         0         0    2.3438

  Columns 29 through 35

         0    3.9063    0.3906         0    3.1250         0    3.1250

  Columns 36 through 42

    3.1250         0    0.7813    5.4688         0         0         0

  Columns 43 through 49

    0.3906    4.2969         0         0         0    1.5625    2.7344

  Columns 50 through 56

    3.1250    0.7813    2.7344    3.9063    1.9531         0         0

  Columns 57 through 63

    1.1719    5.0781    4.2969         0    3.5156    3.5156         0

  Columns 64 through 66
```

```
    5.0781         0         0

-------------------------------------------------------------
Iteration 2

ans =

  Columns 1 through 7

    1.0000    0.5000    0.3333    0.1599    0.0552    0.0631    0.0469

  Columns 8 through 14

    0.0616    0.0453    0.1967    0.0477    0.0523    0.0702    0.1187

  Columns 15 through 21

    0.0638    0.1067    0.0460    0.0460    0.0892    0.0992    0.0863

  Columns 22 through 28

    0.0491    0.0502    0.0660    0.0951    0.0564    0.0499    0.0687

  Columns 29 through 35

    0.1037    0.0827    0.1322    0.0722    0.0757    0.0709    0.0681

  Columns 36 through 42

    0.0605    0.0574    0.0466    0.0591    0.0659    0.0659    0.0493

  Columns 43 through 49

    0.0546    0.0747    0.0583    0.0574    0.0492    0.0616    0.0532

  Columns 50 through 56

    0.1135    0.2639    0.0683    0.0676    0.0841    0.1288    0.0497

  Columns 57 through 63

    0.0928    0.0519    0.0448    0.0581    0.0453    0.0828    0.0483

  Columns 64 through 70

    0.0446    0.0498    0.0557    0.3835    0.0586    0.0458    0.1246

  Columns 71 through 77

    0.0461    0.0843    0.0547    0.0522    0.0480    0.0580    0.0721

  Columns 78 through 84

    0.0688    0.0444    0.0648    0.0496    0.0497    0.1370    0.2469
```

```
  Columns 85 through 91

    0.1052    0.0471    0.0574    0.0539    0.0753    0.0511    0.0442

  Columns 92 through 93

    0.0508    0.0565

Possible Error

ans =

  Columns 1 through 7

         0         0    0.7813         0         0         0         0

  Columns 8 through 14

    1.5625    3.5156         0         0    4.2969    0.3906         0

  Columns 15 through 21

         0    2.3438    1.9531    1.9531         0    2.3438         0

  Columns 22 through 28

         0         0         0         0         0         0    2.3438

  Columns 29 through 35

         0    3.9063    0.3906         0    3.1250         0    3.1250

  Columns 36 through 42

    3.1250         0    0.7813    5.4688         0         0         0

  Columns 43 through 49

    0.3906    4.2969         0         0         0    1.5625    2.7344

  Columns 50 through 56

    3.1250    0.7813    2.7344    3.9063    1.9531         0         0

  Columns 57 through 63

    1.1719    5.0781    4.2969         0    3.5156    3.5156         0

  Columns 64 through 66

    5.0781         0         0

------------------------------------------------------------------
```

```
Iteration 3

ans =

  Columns 1 through 7

    1.0000    0.5000    0.3333    0.1599    0.0552    0.0631    0.0469

  Columns 8 through 14

    0.0616    0.0453    0.1967    0.0477    0.0523    0.0702    0.1187

  Columns 15 through 21

    0.0638    0.1067    0.0460    0.0460    0.0892    0.0992    0.0863

  Columns 22 through 28

    0.0491    0.0502    0.0660    0.0951    0.0564    0.0499    0.0687

  Columns 29 through 35

    0.1037    0.0827    0.1322    0.0722    0.0757    0.0709    0.0681

  Columns 36 through 42

    0.0605    0.0574    0.0466    0.0591    0.0659    0.0659    0.0493

  Columns 43 through 49

    0.0546    0.0747    0.0583    0.0574    0.0492    0.0616    0.0532

  Columns 50 through 56

    0.1135    0.2639    0.0683    0.0676    0.0841    0.1288    0.0497

  Columns 57 through 63

    0.0928    0.0519    0.0448    0.0581    0.0453    0.0828    0.0483

  Columns 64 through 70

    0.0446    0.0498    0.0557    0.3835    0.0586    0.0458    0.1246

  Columns 71 through 77

    0.0461    0.0843    0.0547    0.0522    0.0480    0.0580    0.0721

Possible Error

ans =

  Columns 1 through 7
```

```
         0         0    0.7813         0         0         0         0

  Columns 8 through 14

    1.5625    3.5156         0         0    4.2969    0.3906         0

  Columns 15 through 21

         0    2.3438    1.9531    1.9531         0    2.3438         0

  Columns 22 through 28

         0         0         0         0         0         0    2.3438

  Columns 29 through 35

         0    3.9063    0.3906         0    3.1250         0    3.1250

  Columns 36 through 42

    3.1250         0    0.7813    5.4688         0         0         0

  Columns 43 through 49

    0.3906    4.2969         0         0         0    1.5625    2.7344

  Columns 50 through 56

    3.1250    0.7813    2.7344    3.9063    1.9531         0         0

  Columns 57 through 63

    1.1719    5.0781    4.2969         0    3.5156    3.5156         0

  Columns 64 through 66

    5.0781         0         0

------------------------------------------------------------------
Iteration 4

ans =

  Columns 1 through 7

    1.0000    0.5000    0.3333    0.1599    0.0552    0.0631    0.0469

  Columns 8 through 14

    0.0616    0.0453    0.1967    0.0477    0.0523    0.0702    0.1187

  Columns 15 through 21

    0.0638    0.1067    0.0460    0.0460    0.0892    0.0992    0.0863
```

```
  Columns 22 through 28

    0.0491    0.0502    0.0660    0.0951    0.0564    0.0499    0.0687

  Columns 29 through 35

    0.1037    0.0827    0.1322    0.0722    0.0757    0.0709    0.0681

  Columns 36 through 42

    0.0605    0.0574    0.0466    0.0591    0.0659    0.0659    0.0493

  Columns 43 through 49

    0.0546    0.0747    0.0583    0.0574    0.0492    0.0616    0.0532

  Columns 50 through 56

    0.1135    0.2639    0.0683    0.0676    0.0841    0.1288    0.0497

  Columns 57 through 63

    0.0928    0.0519    0.0448    0.0581    0.0453    0.0828    0.0483

  Columns 64 through 70

    0.0446    0.0498    0.0557    0.3835    0.0586    0.0458    0.1246

  Columns 71 through 72

    0.0461    0.0843

Possible Error

ans =

  Columns 1 through 7

         0         0    0.7813         0         0         0         0

  Columns 8 through 14

    1.5625    3.5156         0         0    4.2969    0.3906         0

  Columns 15 through 21

         0    2.3438    1.9531    1.9531         0    2.3438         0

  Columns 22 through 28

         0         0         0         0         0         0    2.3438

  Columns 29 through 35
```

```
         0    3.9063    0.3906         0    3.1250         0    3.1250

  Columns 36 through 42

    3.1250         0    0.7813    5.4688         0         0         0

  Columns 43 through 49

    0.3906    4.2969         0         0         0    1.5625    2.7344

  Columns 50 through 56

    3.1250    0.7813    2.7344    3.9063    1.9531         0         0

  Columns 57 through 63

    1.1719    5.0781    4.2969         0    3.5156    3.5156         0

  Columns 64 through 66

    5.0781         0         0

------------------------------------------------------------------
Iteration 5

ans =

  Columns 1 through 7

    1.0000    0.5000    0.3333    0.1599    0.0552    0.0631    0.0469

  Columns 8 through 14

    0.0616    0.0453    0.1967    0.0477    0.0523    0.0702    0.1187

  Columns 15 through 21

    0.0638    0.1067    0.0460    0.0460    0.0892    0.0992    0.0863

  Columns 22 through 28

    0.0491    0.0502    0.0660    0.0951    0.0564    0.0499    0.0687

  Columns 29 through 35

    0.1037    0.0827    0.1322    0.0722    0.0757    0.0709    0.0681

  Columns 36 through 42

    0.0605    0.0574    0.0466    0.0591    0.0659    0.0659    0.0493

  Columns 43 through 49
```

```
    0.0546    0.0747    0.0583    0.0574    0.0492    0.0616    0.0532

  Columns 50 through 56

    0.1135    0.2639    0.0683    0.0676    0.0841    0.1288    0.0497

  Columns 57 through 63

    0.0928    0.0519    0.0448    0.0581    0.0453    0.0828    0.0483

  Columns 64 through 67

    0.0446    0.0498    0.0557    0.3835

Possible Error

ans =

  Columns 1 through 7

         0         0    0.7813         0         0         0         0

  Columns 8 through 14

    1.5625    3.5156         0         0    4.2969    0.3906         0

  Columns 15 through 21

         0    2.3438    1.9531    1.9531         0    2.3438         0

  Columns 22 through 28

         0         0         0         0         0         0    2.3438

  Columns 29 through 35

         0    3.9063    0.3906         0    3.1250         0    3.1250

  Columns 36 through 42

    3.1250         0    0.7813    5.4688         0         0         0

  Columns 43 through 49

    0.3906    4.2969         0         0         0    1.5625    2.7344

  Columns 50 through 56

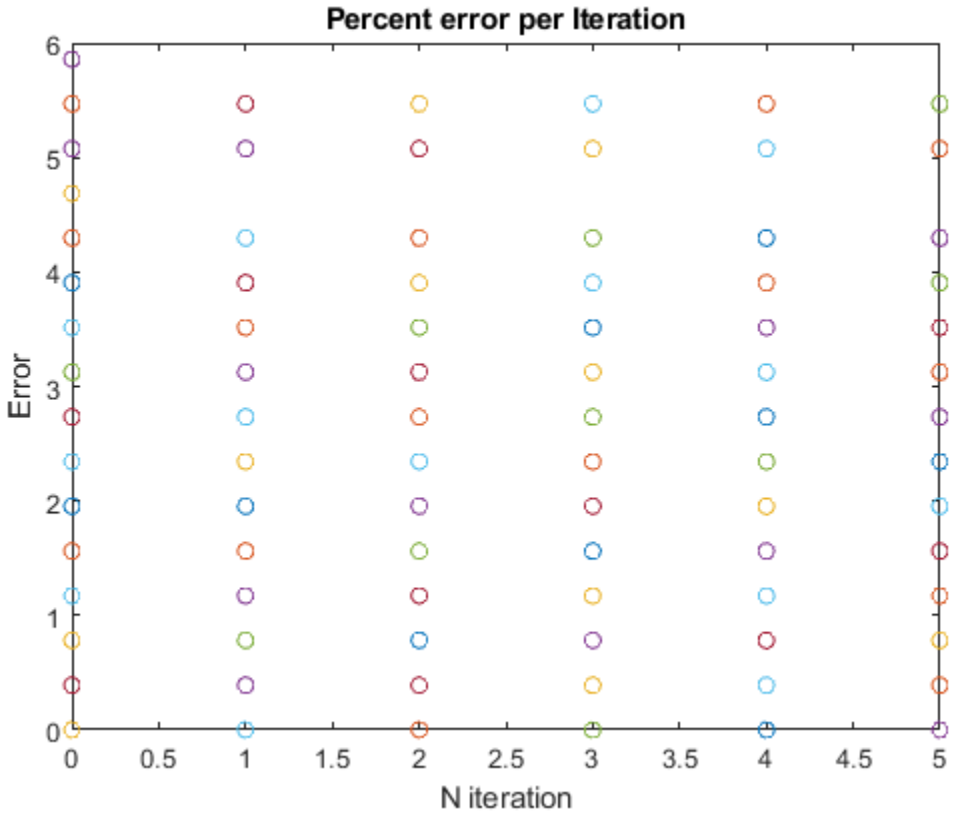
    3.1250    0.7813    2.7344    3.9063    1.9531         0         0

  Columns 57 through 63

    1.1719    5.0781    4.2969         0    3.5156    3.5156         0
```

```
Columns 64 through 66

    5.0781         0         0
```



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