

```

List4= [
    0          0  1.0000e+00  5.0030e-01  1.0000e+02  2.5015e+04 100;

    5.0000e-01          0  1.0000e+00  4.9978e-01  1.0000e+02  2.4989e+04 100;

    1.0000e+00          0  1.0000e+00  4.9540e-01  1.0000e+02  2.4770e+04 100;

    1.5000e+00          0  1.0000e+00  4.9606e-01  1.0000e+02  2.4803e+04 100;

    2.0000e+00          0  1.0000e+00  4.9412e-01  1.0000e+02  2.4706e+04 100;

    2.5000e+00  1.0000e-02  9.9000e-01  4.7862e-01  9.9000e+01  2.3931e+04 100;

    3.0000e+00  1.0000e-02  9.9000e-01  4.5028e-01  9.9000e+01  2.2514e+04 100;

    3.5000e+00  2.5000e-01  7.5000e-01  3.0702e-01  7.5000e+01  1.5351e+04 100;

    4.0000e+00  6.1000e-01  3.9000e-01  1.2908e-01  3.9000e+01  6.4540e+03 100;

    4.5000e+00  9.6000e-01  4.0000e-02  1.4540e-02  4.0000e+00  7.2700e+02 100;

    5      1      0      0      0      0      100;

    5.5    1      0      0      0      0      100;

    6      1      0      0      0      0      100;

    6.5    1      0      0      0      0      100;

    7      1      0      0      0      0      100;

    7.5    1      0      0      0      0      100;

    8      1      0      0      0      0      100;

    8.5    1      0      0      0      0      100;

    9      1      0      0      0      0      100;

    9.5    1      0      0      0      0      100;

    10     1      0      0      0      0      100
];

List8 = [
    0          0  1.0000e+00  4.9737e-01  5.0000e+02  1.2434e+05  5.0000e+02;

    5.0000e-01          0  1.0000e+00  4.9801e-01  5.0000e+02  1.2450e+05
5.0000e+02;

```

1.0000e+00	0	1.0000e+00	4.9662e-01	5.0000e+02	1.2416e+05
5.0000e+02;					
1.5000e+00	0	1.0000e+00	4.9458e-01	5.0000e+02	1.2365e+05
5.0000e+02;					
2.0000e+00	0	1.0000e+00	4.9045e-01	5.0000e+02	1.2261e+05
5.0000e+02;					
2.5000e+00	2.0000e-03	9.9800e-01	4.7586e-01	4.9900e+02	1.1896e+05
5.0000e+02;					
3.0000e+00	4.0000e-02	9.6000e-01	4.3108e-01	4.8000e+02	1.0777e+05
5.0000e+02;					
3.5000e+00	2.8000e-01	7.2000e-01	2.7714e-01	3.6000e+02	6.9286e+04
5.0000e+02;					
4.0000e+00	7.3000e-01	2.7000e-01	8.5804e-02	1.3500e+02	2.1451e+04
5.0000e+02;					
4.5000e+00	9.5800e-01	4.2000e-02	1.0004e-02	2.1000e+01	2.5010e+03
5.0000e+02;					
5.0000e+00	9.9800e-01	2.0000e-03	3.6800e-04	1.0000e+00	9.2000e+01
5.0000e+02;					
5.5000e+00	1.0000e+00	0	0	0	0
5.0000e+02;					
6	1	0	0	0	0
500;					
6.5000e+00	1.0000e+00	0	0	0	0
5.0000e+02;					
7	1	0	0	0	0
500;					
7.5	1	0	0	0	0
500;					
8	1	0	0	0	0
500;					
8.5	1	0	0	0	0
500;					
9	1	0	0	0	0
500;					
9.5	1	0	0	0	0
500;					
10	1	0	0	0	0
500					
];					

```
List16 = [
    0      0  1.0000e+00  4.9954e-01  1.0000e+02  2.4977e+04 100;

    5.0000e-01      0  1.0000e+00  4.9916e-01  1.0000e+02  2.4958e+04 100;

    1.0000e+00      0  1.0000e+00  4.8776e-01  1.0000e+02  2.4388e+04 100;

    1.5000e+00      0  1.0000e+00  4.9412e-01  1.0000e+02  2.4706e+04 100;

    2.0000e+00      0  1.0000e+00  4.9254e-01  1.0000e+02  2.4627e+04 100;

    2.5000e+00      0  1.0000e+00  4.7452e-01  1.0000e+02  2.3726e+04 100;

    3.0000e+00  6.0000e-02  9.4000e-01  4.0024e-01  9.4000e+01  2.0012e+04 100;

    3.5000e+00  3.1000e-01  6.9000e-01  2.6088e-01  6.9000e+01  1.3044e+04 100;

    4.0000e+00  8.4000e-01  1.6000e-01  5.4480e-02  1.6000e+01  2.7240e+03 100;

    4.5000e+00  9.7000e-01  3.0000e-02  4.5000e-03  3.0000e+00  2.2500e+02 100;

    5      1      0      0      0      0  100;

    5.5      1      0      0      0      0  100;

    6      1      0      0      0      0  100;

    6.5      1      0      0      0      0  100;

    7      1      0      0      0      0  100;

    7.5      1      0      0      0      0  100;

    8      1      0      0      0      0  100;

    8.5      1      0      0      0      0  100;

    9      1      0      0      0      0  100;

    9.5      1      0      0      0      0  100;

    10      1      0      0      0      0  100
];
```

```
semilogy(List4(:,1),List4(:,2),'LineWidth',1,'MarkerSize',8);
hold on;
semilogy(List8(:,1),List8(:,2),'LineWidth',1,'MarkerSize',8);
semilogy(List16(:,1),List16(:,2),'LineWidth',1,'MarkerSize',8);
hold off;
```

```

grid on;
xlabel('Ebnodb');
ylabel('success prob');
legend('LISTSIZE = 4', 'LISTSIZE = 8', 'LISTSIZE = 16');
xticks(0:0.5:10);
ylim([0 1]);
title('Probability of decoding success N = 1024 Rate  $\approx 1/2$ ');

```

