**每个编号下均提供了3个测试样例，请在实验报告中记录3个样例的平均用时，并对每个样例记录一个解矩阵。**

**1.**

**N=4, k=5**

0 5 0 0

0 0 0 2

3 0 4 0

0 0 0 1

0 3 0 0

0 0 5 0

2 0 0 0

0 1 0 2

0 0 3 0

0 0 2 0

2 0 0 0

0 5 0 4

**2.**

**N=5, k=6**

0 2 0 0 4

0 0 1 0 0

0 0 0 0 6

3 0 0 0 0

0 0 5 0 0

0 2 0 0 0

0 0 1 0 0

0 1 0 0 6

3 0 5 0 0

0 0 0 4 0

5 0 2 0 0

0 1 0 0 3

0 0 0 2 0

0 0 0 4 0

6 0 0 0 0

**3.**

**N=6, k=7**

0 0 0 0 5 0

0 6 7 0 0 0

0 0 4 0 0 7

0 0 0 0 1 0

3 0 0 0 0 0

0 0 0 2 0 0

0 0 7 0 2 0

0 3 0 0 0 0

6 0 0 0 0 4

0 0 5 0 0 0

0 0 0 2 0 0

0 0 3 0 0 0

0 0 0 1 2 0

2 0 0 0 0 7

0 1 0 0 0 0

0 0 1 0 0 0

0 0 0 0 5 0

6 0 0 3 0 0

**4.**

**N=7, k=8**

5 0 0 0 0 0 4

0 3 0 0 0 7 0

0 0 0 6 0 0 0

0 0 1 0 0 0 0

0 0 0 0 0 0 8

0 7 0 0 0 0 0

4 0 0 0 0 1 2

0 0 0 0 3 0 1

0 0 0 6 7 0 0

0 0 5 0 0 0 0

7 4 0 0 0 0 0

0 0 3 0 0 8 0

0 0 0 0 0 0 0

0 0 0 8 0 2 0

5 6 0 0 0 0 0

0 0 0 0 0 4 6

0 0 0 7 6 0 0

0 0 0 0 0 0 0

0 2 0 8 0 0 0

0 0 0 0 3 0 0

0 5 0 0 0 0 8

**5.**

**N=8, k=9**

0 0 1 0 0 9 0 0

0 0 0 6 0 0 0 0

0 7 0 0 0 0 0 0

0 0 0 0 0 4 0 9

1 0 0 0 0 0 6 0

0 0 0 0 0 0 0 2

0 9 0 0 0 5 0 0

0 0 9 0 4 0 0 0

6 0 0 0 0 5 0 0

0 2 0 0 0 0 0 0

0 0 0 9 0 0 0 0

0 0 0 0 9 0 0 0

0 0 0 0 0 2 0 0

0 0 0 0 0 0 9 8

0 0 3 0 0 0 1 2

0 0 7 0 0 0 0 4

8 0 0 0 0 0 0 3

0 3 0 0 0 0 8 0

0 0 3 0 0 8 0 0

0 0 0 5 0 0 0 0

0 0 8 0 0 2 0 0

0 0 7 0 0 0 9 0

0 6 0 0 0 0 0 0

0 0 0 0 0 0 0 4

**6.**

**n=9, k=10**

1 3 0 0 0 0 0 0 0

0 0 2 10 0 0 0 0 0

0 0 0 0 1 0 0 4 0

0 0 0 0 0 5 0 8 0

0 0 0 0 0 0 10 0 0

0 0 0 0 0 0 0 1 0

0 8 0 0 0 0 0 3 0

0 6 0 0 0 4 0 0 0

0 1 0 0 0 10 0 0 7

2 0 0 0 0 0 0 0 6

0 9 0 0 0 0 0 6 0

0 0 10 0 0 0 6 0 0

0 0 0 2 0 9 0 0 0

0 0 0 0 9 0 0 0 0

0 0 0 9 0 10 0 0 0

0 0 5 0 0 0 2 0 0

0 5 0 0 0 0 0 8 0

5 0 0 0 0 0 0 0 10

0 0 0 0 5 0 0 0 0

0 0 0 5 0 7 0 0 0

0 0 5 0 0 0 4 0 0

0 1 0 0 0 0 0 3 0

1 0 0 0 4 0 0 0 2

0 5 0 0 0 0 0 2 0

0 0 4 0 0 0 3 0 0

0 0 0 6 0 3 0 0 0

0 0 0 0 3 0 0 0 0

**7.**

**N=10, k= 11**

0 0 0 0 0 0 0 0 1 3

0 0 0 0 0 0 0 11 4 0

0 0 0 0 0 0 2 6 0 0

0 0 0 0 0 3 5 0 0 0

0 0 0 0 4 1 0 0 0 0

0 0 0 11 9 0 0 0 0 0

0 0 2 6 0 0 0 0 0 0

0 1 5 0 0 0 0 0 0 0

9 4 0 0 0 0 0 0 0 0

11 0 0 0 0 0 0 0 0 5

6 0 0 0 0 0 0 0 0 9

0 0 0 0 0 0 0 0 7 11

0 0 0 0 0 0 0 4 1 0

0 0 0 0 0 0 10 9 0 0

0 0 0 0 0 2 7 0 0 0

0 0 0 0 10 5 0 0 0 0

0 0 0 2 7 0 0 0 0 0

0 0 11 7 0 0 0 0 0 0

0 4 6 0 0 0 0 0 0 0

5 2 0 0 0 0 0 0 0 0

2 0 3 0 0 0 0 7 0 0

0 0 0 10 0 0 0 0 7 0

0 0 0 0 5 0 0 0 0 2

0 0 0 0 0 2 0 0 0 0

6 0 0 0 0 0 10 0 0 0

0 5 0 0 0 0 0 6 0 0

0 0 5 0 0 0 0 0 6 0

0 0 0 7 0 0 0 0 0 6

1 0 0 0 4 0 0 0 0 0

0 6 0 0 0 10 0 0 0 7

**8.**

**n=9, k=9**

0 0 0 0 2 0 0 0 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 5 0 0 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0

8 0 0 0 0 0 0 0 0

0 0 0 0 0 6 0 0 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 3 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 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 0 0 0 0 0

**9.**

**N=9, k=9**

0 7 0 0 0 0 0 0 0

0 0 0 0 0 0 8 0 0

0 0 0 0 0 0 0 0 0

0 0 1 8 0 0 0 0 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 2 0

0 0 0 0 0 0 9 0 0

0 0 0 0 0 0 0 0 0

2 0 0 0 0 0 0 0 0

6 0 0 0 0 0 9 0 0

0 0 0 0 5 0 0 0 0

0 0 0 0 2 0 0 0 0

3 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 2 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 1 0 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 9 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0

5 1 0 0 0 0 0 0 0

0 0 0 8 0 0 0 4 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 1 0 0

0 0 0 0 0 3 0 0 0

0 0 0 0 0 0 0 0 0

**10.**

**N=9, k=9**

1 0 0 8 0 0 0 0 0

0 5 0 0 0 0 0 0 0

0 0 0 0 0 0 0 8 4

0 0 0 6 0 0 0 0 0

0 4 0 0 0 0 9 0 0

0 0 0 2 0 0 0 0 0

0 0 0 0 0 9 0 0 0

0 0 2 0 0 0 0 0 0

8 0 0 0 0 0 0 0 0

5 0 2 0 0 0 0 0 0

0 0 0 0 0 1 0 0 0

3 0 0 0 0 0 0 0 0

0 1 0 0 0 0 0 8 0

0 0 0 2 0 0 5 0 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 1 9

0 0 0 0 7 0 0 0 0

0 4 0 0 0 0 0 0 0

1 7 0 0 0 0 0 0 0

0 0 0 2 0 0 0 0 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 7 1 0

0 0 0 0 0 9 0 0 0

0 0 0 3 0 0 0 0 0

0 0 0 0 1 0 0 8 0

0 0 2 0 0 0 0 0 0

0 6 0 0 0 0 0 0 9

**11.**

**N=9, k=9**

0 9 0 2 0 0 7 0 0

0 0 0 0 0 0 0 1 0

0 0 0 0 0 0 0 0 0

0 0 0 0 1 5 0 3 0

0 6 0 0 0 0 0 0 5

0 0 0 0 8 0 0 0 0

8 0 1 0 0 0 2 0 0

3 0 0 9 0 0 0 0 0

0 0 0 6 0 0 4 0 0

0 1 8 0 0 0 7 0 0

0 0 0 3 0 0 2 0 0

0 7 0 0 0 0 0 0 0

0 0 0 0 7 1 0 0 0

6 0 0 0 0 0 0 4 0

3 0 0 0 0 0 0 0 0

5 0 0 4 0 0 0 0 3

0 2 0 0 8 0 0 0 0

0 0 0 0 0 0 0 6 0

0 0 0 0 0 0 8 0 1

4 0 0 0 2 0 0 0 0

5 6 0 0 0 0 0 0 0

0 0 0 0 4 0 0 5 0

0 0 1 0 0 0 3 0 0

0 8 0 0 0 0 0 0 0

2 0 0 0 0 0 0 6 0

0 0 0 3 0 9 0 0 0

0 0 7 8 0 0 0 0 0

**12.**

**N=9, k=9**

0 1 0 0 0 0 7 0 0

5 0 0 0 7 3 0 0 0

0 0 0 9 2 8 0 0 5

0 0 3 0 4 0 0 8 6

0 9 0 0 0 0 0 0 4

0 2 0 0 0 0 9 0 7

0 8 0 0 0 2 0 0 1

9 0 6 0 0 0 0 0 3

0 0 0 0 0 0 0 6 0

0 0 0 0 0 9 0 0 8

0 0 0 0 0 0 0 1 0

0 0 3 0 0 0 9 6 5

0 0 0 2 7 0 0 0 0

8 0 0 0 9 0 0 0 0

0 6 0 0 0 0 0 0 4

9 0 0 5 1 0 0 8 0

6 3 0 0 0 0 0 0 0

0 8 7 0 0 6 0 9 3

8 0 0 0 0 0 0 0 0

0 0 0 9 8 0 5 0 3

0 1 0 0 0 0 8 0 2

4 0 0 1 0 0 6 7 0

0 3 0 6 0 0 0 2 0

0 0 9 0 0 0 0 0 4

0 0 0 0 4 5 0 0 0

7 2 0 0 0 1 0 6 0

0 0 0 0 0 0 2 0 0