

课后作业17

1. 初始距离矩阵:

```
0 Inf Inf Inf 1 Inf
1 0 Inf 2 Inf Inf
Inf 2 0 Inf Inf 8
4 Inf Inf 0 3 Inf
Inf 7 Inf Inf 0 Inf
Inf 5 10 Inf Inf 0
```

第 1 次迭代后的距离矩阵:

```
0 Inf Inf Inf 1 Inf
1 0 Inf 2 2 Inf
Inf 2 0 Inf Inf 8
4 Inf Inf 0 3 Inf
Inf 7 Inf Inf 0 Inf
Inf 5 10 Inf Inf 0
```

第 2 次迭代后的距离矩阵:

```
0 Inf Inf Inf 1 Inf
1 0 Inf 2 2 Inf
3 2 0 4 4 8
4 Inf Inf 0 3 Inf
8 7 Inf 9 0 Inf
6 5 10 7 7 0
```

第 3 次迭代后的距离矩阵:

```
0 Inf Inf Inf 1 Inf
1 0 Inf 2 2 Inf
3 2 0 4 4 8
4 Inf Inf 0 3 Inf
8 7 Inf 9 0 Inf
6 5 10 7 7 0
```

第 4 次迭代后的距离矩阵:

```
0 Inf Inf Inf 1 Inf
1 0 Inf 2 2 Inf
3 2 0 4 4 8
4 Inf Inf 0 3 Inf
```

8 7 Inf 9 0 Inf
6 5 10 7 7 0

第 5 次迭代后的距离矩阵:

0 8 Inf 10 1 Inf
1 0 Inf 2 2 Inf
3 2 0 4 4 8
4 10 Inf 0 3 Inf
8 7 Inf 9 0 Inf
6 5 10 7 7 0

第 6 次迭代后的距离矩阵:

0 8 Inf 10 1 Inf
1 0 Inf 2 2 Inf
3 2 0 4 4 8
4 10 Inf 0 3 Inf
8 7 Inf 9 0 Inf
6 5 10 7 7 0

最终的最短路径矩阵:

0 8 Inf 10 1 Inf
1 0 Inf 2 2 Inf
3 2 0 4 4 8
4 10 Inf 0 3 Inf
8 7 Inf 9 0 Inf
6 5 10 7 7 0

2. 个人认为此题应当是取绝对值最小而非单纯的最小

初始距离矩阵:

0 Inf Inf Inf -1 Inf
1 0 Inf 2 Inf Inf
Inf 2 0 Inf Inf -8
-4 Inf Inf 0 3 Inf
Inf 7 Inf Inf 0 Inf
Inf 5 10 Inf Inf 0

第 1 次迭代后的距离矩阵:

0 Inf Inf Inf -1 Inf
1 0 Inf 2 0 Inf
Inf 2 0 Inf Inf -8
-4 Inf Inf 0 3 Inf

Inf 7 Inf Inf 0 Inf
Inf 5 10 Inf Inf 0

第 2 次迭代后的距离矩阵:

0 Inf Inf Inf -1 Inf
1 0 Inf 2 0 Inf
3 2 0 4 2 -8
-4 Inf Inf 0 3 Inf
8 7 Inf 9 0 Inf
6 5 10 7 5 0

第 3 次迭代后的距离矩阵:

0 Inf Inf Inf -1 Inf
1 0 Inf 2 0 Inf
3 2 0 4 2 -8
-4 Inf Inf 0 3 Inf
8 7 Inf 9 0 Inf
6 5 10 7 5 0

第 4 次迭代后的距离矩阵:

0 Inf Inf Inf -1 Inf
1 0 Inf 2 0 Inf
0 2 0 4 2 -8
-4 Inf Inf 0 3 Inf
5 7 Inf 9 0 Inf
3 5 10 7 5 0

第 5 次迭代后的距离矩阵:

0 6 Inf 8 -1 Inf
1 0 Inf 2 0 Inf
0 2 0 4 2 -8
-4 10 Inf 0 3 Inf
5 7 Inf 9 0 Inf
3 5 10 7 5 0

第 6 次迭代后的距离矩阵:

0 6 Inf 8 -1 Inf
1 0 Inf 2 0 Inf
0 2 0 -1 2 -8
-4 10 Inf 0 3 Inf
5 7 Inf 9 0 Inf
3 5 10 7 5 0

最终的最短路径矩阵:

0 6 Inf 8 -1 Inf

1 0 Inf 2 0 Inf

0 2 0 -1 2 -8

-4 10 Inf 0 3 Inf

5 7 Inf 9 0 Inf

3 5 10 7 5 0