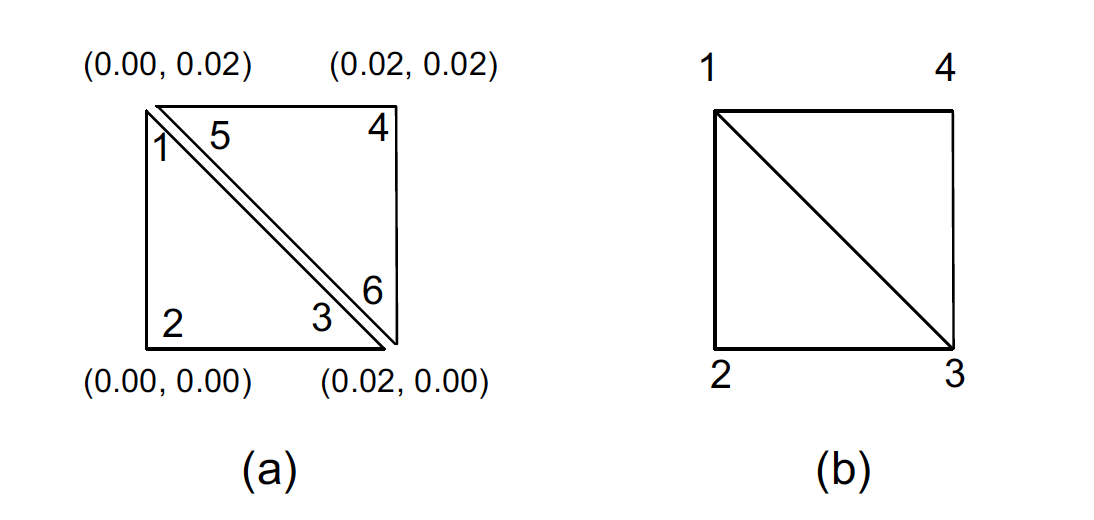
Tiffany Wang

260684152

ECSE 543 – Assignment 2

Question 1:



*Figure 1. (a) disjoint node numbering (b) global node numbering*

* calculations:
* S calculation:

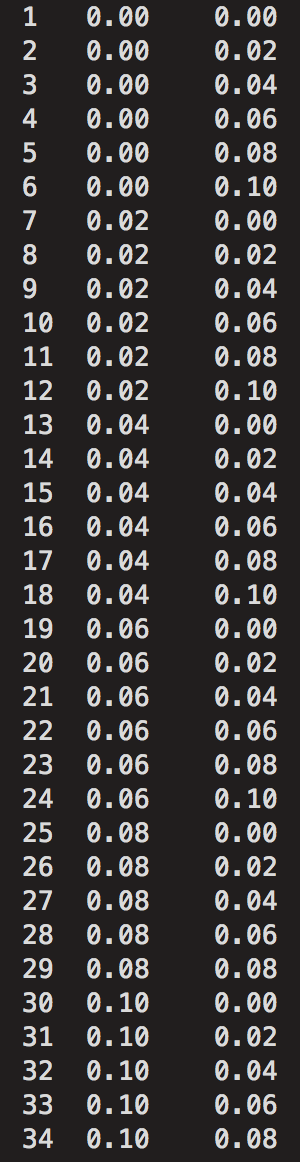
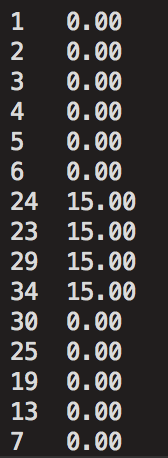
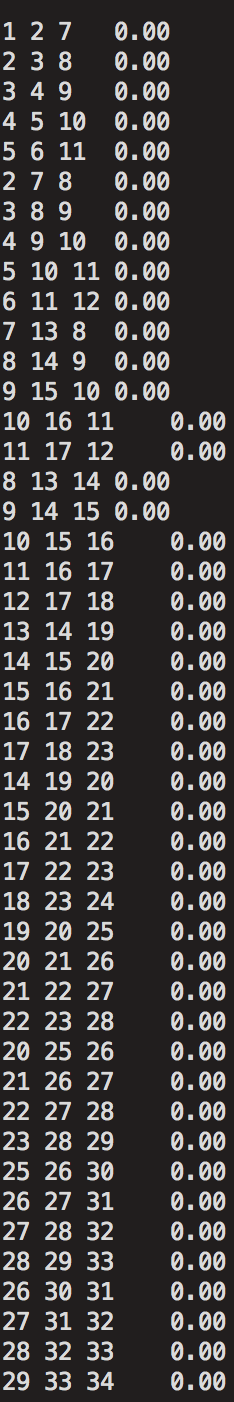
Question 2:

I used the following node numbering to solve the problem

*y*

*x*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 6 | 12 | 18 | 24 |  | 15 V |
| 5 | 11 | 17 | 23 | 29 | 34 |
| 4 | 10 | 16 | 22 | 28 | 33 |
| 3 | 9 | 15 | 21 | 27 | 32 |
| 2 | 8 | 14 | 20 | 26 | 31 |
| 1 | 7 | 13 | 19 | 25 | 30 |



>> SIMPLE2D\_M('file.dat')

ans =

1.0000 0 0 0

2.0000 0 0.0200 0

3.0000 0 0.0400 0

4.0000 0 0.0600 0

5.0000 0 0.0800 0

6.0000 0 0.1000 0

7.0000 0.0200 0 0

8.0000 0.0200 0.0200 0.5824

9.0000 0.0200 0.0400 1.2142

10.0000 0.0200 0.0600 1.7872

11.0000 0.0200 0.0800 1.7552

12.0000 0.0200 0.1000 0

13.0000 0.0400 0 0

14.0000 0.0400 0.0200 1.1155

15.0000 0.0400 0.0400 2.4872

16.0000 0.0400 0.0600 4.1794

17.0000 0.0400 0.0800 5.2337

18.0000 0.0400 0.1000 0

19.0000 0.0600 0 0

20.0000 0.0600 0.0200 1.3926

21.0000 0.0600 0.0400 3.4395

22.0000 0.0600 0.0600 7.2096

23.0000 0.0600 0.0800 15.0000

24.0000 0.0600 0.1000 15.0000

25.0000 0.0800 0 0

26.0000 0.0800 0.0200 1.0153

27.0000 0.0800 0.0400 2.6686

28.0000 0.0800 0.0600 6.2195

29.0000 0.0800 0.0800 15.0000

30.0000 0.1000 0 0

31.0000 0.1000 0.0200 0

32.0000 0.1000 0.0400 0

33.0000 0.1000 0.0600 0

34.0000 0.1000 0.0800 15.0000