**Problem 1**

* The general element stiffness matrix is listed below:

So, for element 1 and 5, and are:

* The entries which element 3 contributes and element 5 contributes are listed below:

Firstly, list matrix , and :

* Element 3

For element 3, all the entries should be:

* Element 5

For element 5, all the entries should be:

* K11, K34, K65, K77, K78, K87, K88 are expressed in terms of the element stiffness matrices :

**Problem 3**

Codes are seen in the email.

**Problem 4**



Figure . The plot of deformed truss 1

**Problem 5**

u =

0

0

-0.1054

0

0.0487

0.0723

0.0848

-0.0351

0.1027

-0.1914

f =[-0.0000 -0.2500 0 0.7500 0 0 0 0 0 -0.5000]



Figure .The plot of deformed truss 2