```
> edges=c(c(0,1,1,0,0,0,0,0,0), c(1,0,1,0,0,0,0,1,0), c(1,1,0,1,0,0,0,0,0), c(0,0,1,0,1,1,0,0,0),
c(0,0,0,1,0,1,1,0,0), c(0,0,0,1,1,0,0,0,0), c(0,0,0,0,1,0,0,1,1), c(0,1,0,0,0,0,1,0,1), c(0,0,0,0,0,0,1,1,0))

> nodeNames=c("A","B","C","D","E","F","G","H","I")

> adjMatrix=matrix(edges,nrow=9,ncol=9,byrow=TRUE,dimnames=list(nodeNames,nodeNames))

>

>

>

>

>

>

> adjMatrix
  A B C D E F G H I
A 0 1 1 0 0 0 0 0 0
B 1 0 1 0 0 0 0 1 0
C 1 1 0 1 0 0 0 0 0
D 0 0 1 0 1 1 0 0 0
E 0 0 0 1 0 1 1 0 0
F 0 0 0 1 1 0 0 0 0
G 0 0 0 0 1 0 0 1 1
H 0 1 0 0 0 0 1 0 1
I 0 0 0 0 0 0 1 1 0
> library("igraph")
```

Attaching package: 'igraph'

The following objects are masked from 'package:stats':

    decompose, spectrum

The following object is masked from 'package:base':

union

Warning message:

package 'igraph' was built under R version 3.6.3

```
> g=graph_from_adjacency_matrix(adjMatrix, mode="undirected")
> g
IGRAPH 1918485 UN-- 9 12 --
+ attr: name (v/c)
+ edges from 1918485 (vertex names):
 [1] A--B A--C B--C B--H C--D D--E D--F E--F E--G G--H G--I H--I
> edge_betweenness(g)
 [1] 4.0 4.0 6.5 9.5 9.5 6.5 4.0 4.0 9.5 6.5 4.0 4.0
> cluster_edge_betweenness(g,weights=NULL,directed=FALSE)
IGRAPH clustering edge betweenness, groups: 3, mod: 0.42
+ groups:
  $`1`
  [1] "A" "B" "C"

  $`2`
  [1] "D" "E" "F"

  $`3`
  [1] "G" "H" "I"
```