

## rg\_reshuffling\_w

Last Updated Friday, 19 June 2009

This function randomly resuffles a weighted edgelist. It takes four options:

- edgelist: the weighted edgelist that is being reshuffled
- option:
- weights (default): randomly assigns the weights to the edges
- degree: maintain the degree distribution, but changes the contacts randomly
- directed: logical, is the network directed or undirected. Default is NULL, which means that the function determines whether the edgelist is directed
- seed: if you want to make a reproducible random network (i.e. for publication), you need to set this equal to an integer.

Example: Sample data## Load tnet

```
library(tnet)## Define sample data
```

```
sampledata<-rbind(
```

```
c(1,2,4),
```

```
c(1,3,2),
```

```
c(2,1,4),
```

```
c(2,3,4),
```

```
c(2,4,1),
```

```
c(2,5,2),
```

```
c(3,1,2),
```

```
c(3,2,4),
```

```
c(4,2,1),
```

```
c(5,2,2),
```

```
c(5,6,1),
```

```
c(6,5,1));## Run programme
```

```
rg_reshuffling_w(sampledata, option=weights, directed=FALSE)  i j w
```

```
[1,] 1 2 1
```

```
[2,] 1 3 2
```

```
[3,] 2 1 1
```

```
[4,] 2 3 2
```

```
[5,] 2 4 1
```

```
[6,] 2 5 4
```

```
[7,] 3 1 2
```

```
[8,] 3 2 2
```

```
[9,] 4 2 1
```

```
[10,] 5 2 4
```

```
[11,] 5 6 4
```

```
[12,] 6 5 4rg_reshuffling_w(sampledata, method=weights, directed=FALSE)  i j w
```

```
[1,] 1 2 2
```

```
[2,] 1 3 1
```

```
[3,] 2 1 2
```

```
[4,] 2 3 2
```

```
[5,] 2 4 4
```

```
[6,] 2 5 4
```

```
[7,] 3 1 1
```

```
[8,] 3 2 2
```

```
[9,] 4 2 4
```

```
[10,] 5 2 4
```

```
[11,] 5 6 1
```

```
[12,] 6 5 1
```

As you can see, the edges stay the same; however, the weights are reshuffled among them.