# Igrah_union <br> Fan Yang <br> 10/9/2018 

S3 method for class 'igraph' union(. . . , byname = "auto") Union of two social networks with overlapping sets of actors net1 <- graph_from_literal(D-A:B:F:G, A-C-F-A, B-E-G-B, A-B, F-G, \#H-F:G, H-I-J) net2 <-graph_from_literal(D-A:F:Y, B-A-X-F-H-Z, F-Y) str(net1 \%u\% net2)
library (igraph)

```
##
## Attaching package: 'igraph'
## The following objects are masked from 'package:stats':
##
## decompose, spectrum
## The following object is masked from 'package:base':
##
## union
edge_list1 <- data.frame(from = c(3, 3, 3, 4, 6,4,5,3), to = c(4, 5, 7, 7, 7,5,6,6))
node_list1 <- data.frame(id = c(3,4,5,6,7))
g1 <- graph_from_data_frame(d = edge_list1, vertices = node_list1, directed = TRUE)
plot(g1)
```



```
edge_list2 <- data.frame(from = c(2,2,2,4,6,4,5,2), to = c(4,5,8,8,8,5,6,6))
node_list2 <- data.frame(id = c(2,4,5,6,8))
g2 <- graph_from_data_frame(d = edge_list2, vertices = node_list2, directed = TRUE)
plot(g2)
```



G12 = graph.union(g1, g2, byname="auto")
plot(G12)

edge_list3 <- data.frame (from $=c(3,3,3,4,6,4,5,3)$, to $=c(4,5,8,8,8,5,6,6))$
node_list3 <- data.frame(id $=c(3,4,5,6,8)$ )
g3 <- graph_from_data_frame(d = edge_list3, vertices = node_list3, directed = TRUE)
G13 = graph.union(g1, g3, byname=TRUE) \# Merging N1 and N2
plot(G13) \# Color of all nodes is same (by default=orange)


3-4,3-5,3-6 appear twice, but just show once. And I cannot find the name crash.

