

```
#install.packages(c('tidygraph', 'ggraph'))
```

```
library('tidygraph')
```

```
##  
## Attaching package: 'tidygraph'
```

```
## The following object is masked from 'package:stats':  
##  
## filter
```

```
library('ggraph')
```

```
## Loading required package: ggplot2
```

```
feat<-read.csv('C:/Users/sec/Desktop/featuring.csv')  
head(feat)
```

```
##      from      to  
## 1   아이유 G-DRAGON  
## 2 에픽하이 아이유  
## 3 에픽하이 오혁  
## 4   아이유 오혁  
## 5   HIGH4 아이유  
## 6 에픽하이 MINO
```

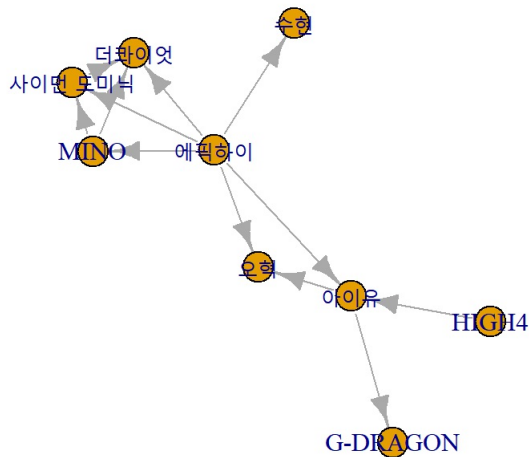
```
class(feat)
```

```
## [1] "data.frame"
```

```
fg <- as_tbl_graph(feat)  
class(fg)
```

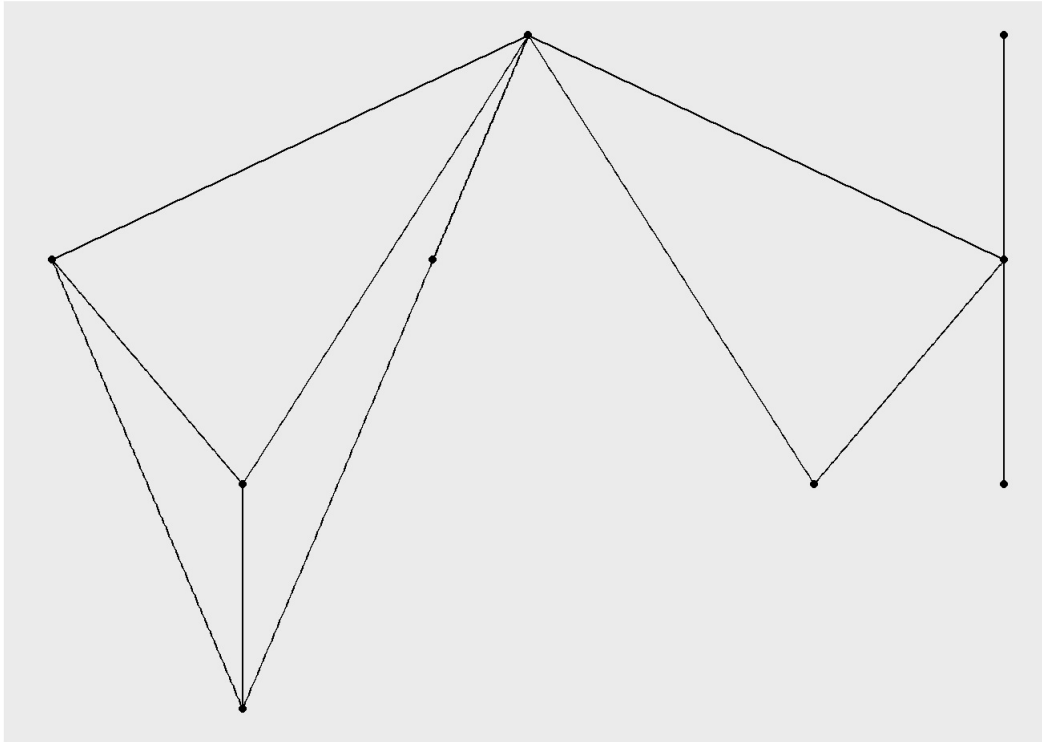
```
## [1] "tbl_graph" "igraph"
```

```
plot(fg)
```

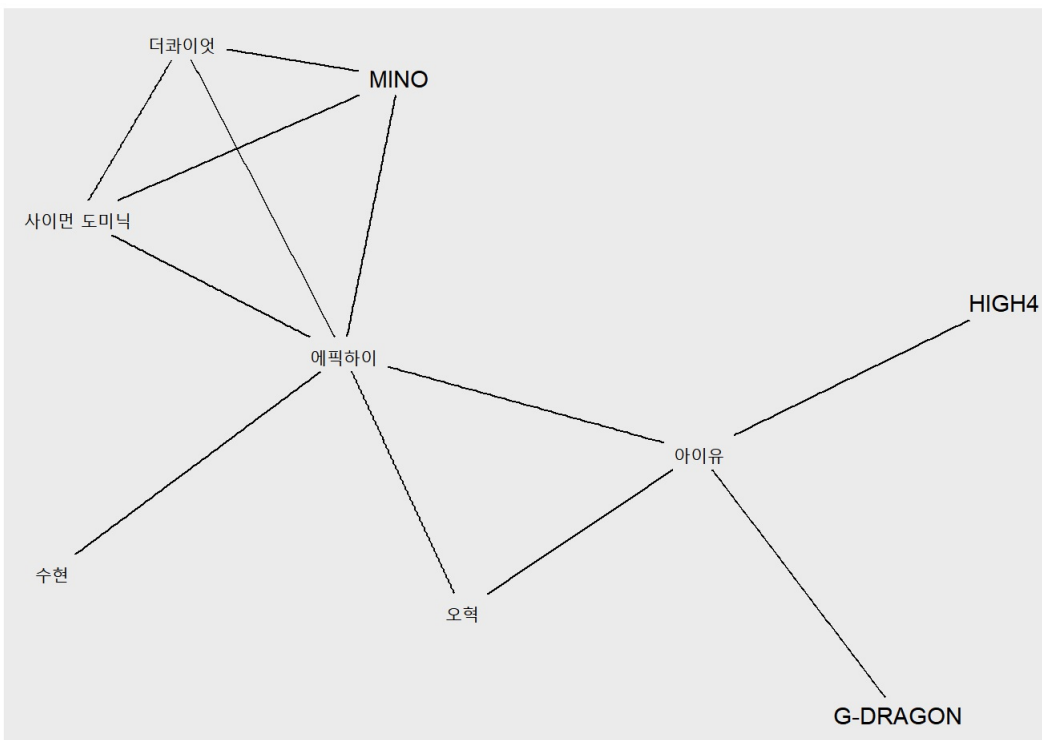


```
ggraph(fg) + geom_node_point() + geom_edge_link()
```

```
## Using `sugiyama` as default layout
```



```
feat %>%  
  as_tbl_graph() %>%  
  ggraph(layout='kk') +  
  geom_node_text(aes(label=name)) +  
  geom_edge_link(aes(start_cap = label_rect(node1.name), end_cap = label_rect(node2.name)))
```



```
#install.packages('tidyverse')  
library('tidyverse')
```

```
## -- Attaching packages ----- tidyverse 1.3.0 --
```

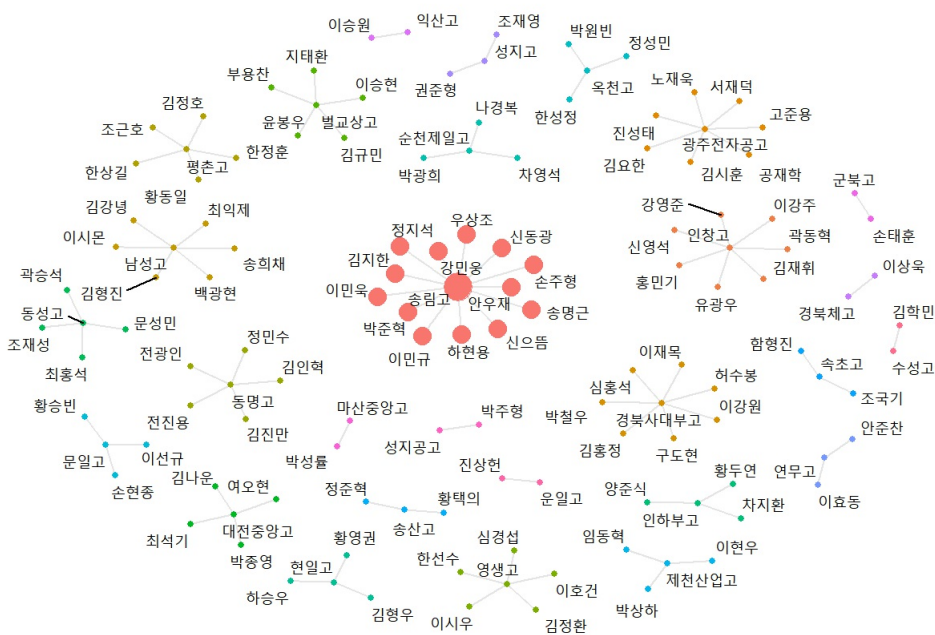
```
## √ tibble 2.1.3    √ dplyr  1.0.0  
## √ tidyr  1.0.2    √ stringr 1.4.0  
## √ readr  1.3.1    √ forcats 0.5.0  
## √ purrr  0.3.3
```

```
## -- Conflicts ----- tidyverse_conflicts() --
## x dplyr::filter() masks tidygraph::filter(), stats::filter()
## x dplyr::lag() masks stats::lag()
```

```
library('tidygraph')
library('ggraph')

kovo <- read.csv('C:/Users/sec/Desktop/kovo.csv')

kovo %>%
  as_tbl_graph(directed=FALSE) %>%
  activate(nodes) %>%
  mutate(eigen = centrality_eigen(),
         group = group_infomap()) %>%
  ggraph(layout='nicely') +
    geom_edge_link(color='gray50', alpha=.2) +
    geom_node_point(aes(color=factor(group), size=eigen)) +
    geom_node_text(aes(label=name), size=3, repel=TRUE) +
    theme_graph() +
    theme(legend.position='none')
```



```
subway <- read.csv('C:/Users/sec/Desktop/subway.csv')

subway %>%
  as_tbl_graph(directed=FALSE) %>%
  activate(nodes) %>%
  mutate(eigen = centrality_eigen(),
         group = group_infomap()) %>%
  ggraph(layout='nicely') +
    geom_edge_link(color='gray50', alpha=.2) +
    geom_node_point(aes(color=factor(group), size=eigen)) +
    geom_node_text(aes(label=name), size=3, repel=TRUE) +
    theme_graph() +
    theme(legend.position='none')
```

