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2023-05-06

a

```
library(igraph)
```

```
##
## Attaching package: 'igraph'
```

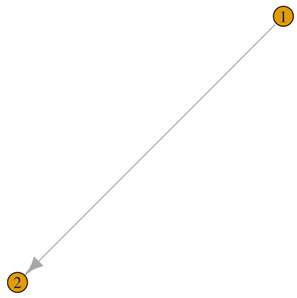
```
## The following objects are masked from 'package:stats':
##
##     decompose, spectrum
```

```
## The following object is masked from 'package:base':
##
##     union
```

```
g <- graph(edges = c(1,2))
```

b

```
plot(g)
```



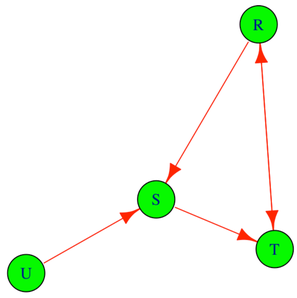

```
#The above command will plot a graph with two nodes and one edge between them. Node 1 is connected to node 2.
```

c

```
gl <- graph(c("R", "S", "S", "T", "T", "R", "R", "T", "U", "S"))
```

d

```
plot(gl, vertex.color = "green", vertex.size = 30, edge.color = "red", edge.size = 5)
```




```
#The above command will plot a graph with five nodes (R, S, T, U) and six edges connecting them.
```

e

```
# Degree
degree(gl)
```

```
## R S T U
## 3 3 3 1
```

```
# Closeness
closeness(gl)
```

```
##         R         S         T         U
## 0.5000000 0.3333333 0.3333333 0.1666667
```

```
# Betweenness
betweenness(gl)
```

```
## R S T U
## 1 2 2 0
```

```
#The degree of a node is the number of edges connected to it, Here R S and T have the same degree as 3 and U has the lowest degree.

#The closeness centrality of a node is the reciprocal of the sum of the shortest path distances from the node to all other nodes in the graph, Here R has high clonesess than S, T and U.

#The betweenness centrality of a node is the number of shortest paths that pass through the node. ere S and T has high betweenness.
```