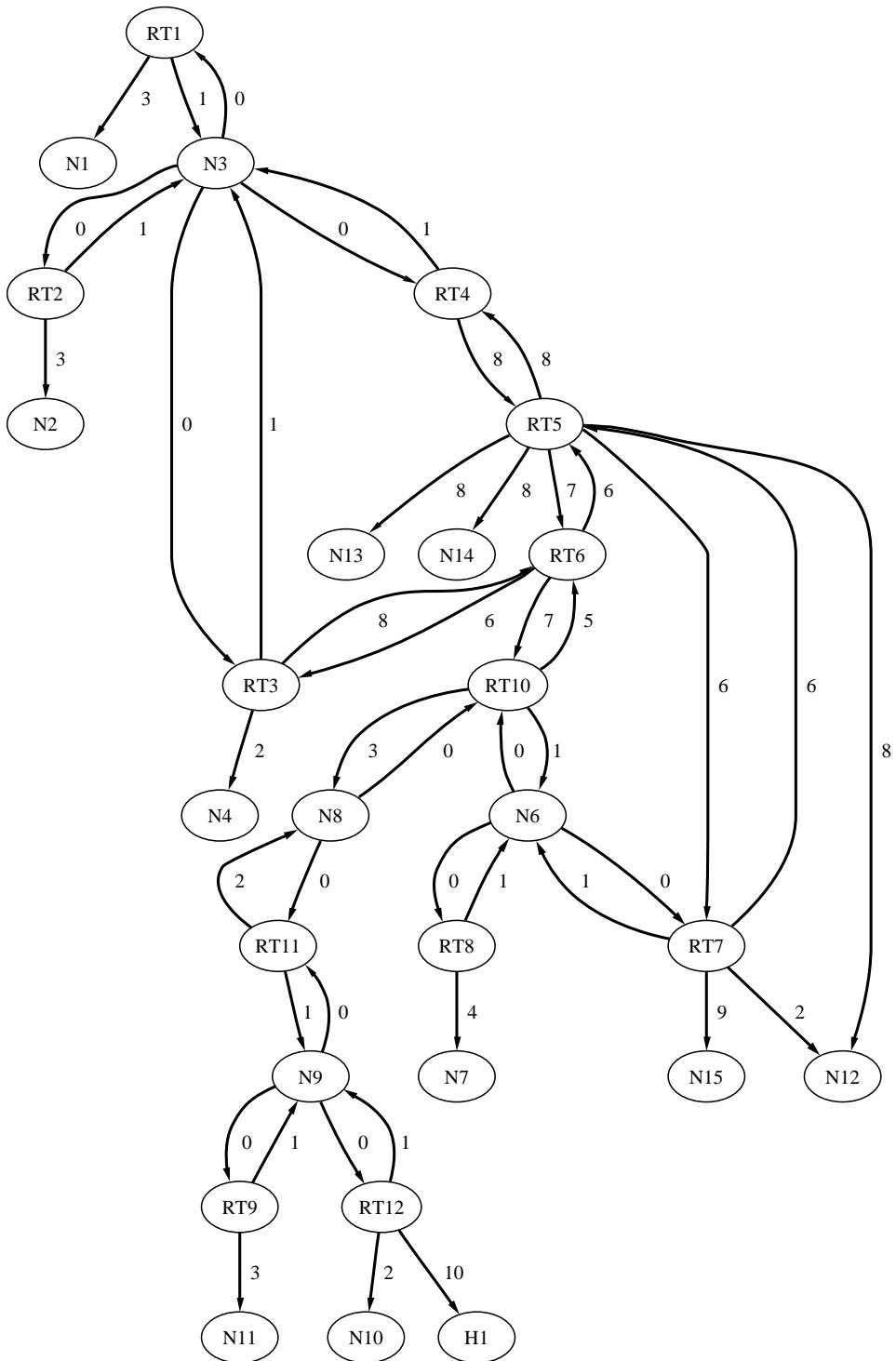


## Issues with edge labeling in Rgraphviz

Here's a network diagram from the boost book



Note that there are many double edges with distinct weights depending on direction of edge.

The dot file can be transformed to gxl by graphviz dot2gxl, and the gxl has to be edited (changing `label` to `weights`) for a successful read by fromGXL.

```
> library(graph)
> ospf <- fromGXL(file("ospf.gxl"))
> print(edgeWeights(ospf)[1:6])

$N3
[1] 0 0 0 0

$N6
[1] 0 0 0

$N8
[1] 0 0

$N9
[1] 0 0 0

$RT1
[1] 3 1

$RT10
[1] 5 1 3
```

It seems to me that this graph object has the right contents.

The `wlabs` function will obtain a suitable `edgeLabels` argument for `Rgraphviz::plot`:

```
> wlabs <- function(g) {
+   ee <- edges(g)
+   ww <- edgeWeights(g)
+   ans <- ee
+   for (i in 1:length(ee)) {
+     ans[[i]] <- as.character(round(ww[[i]], 2))
+     names(ans[[i]]) <- ee[[i]]
+   }
+   ans
+ }
> print(wlabs(ospf)[1:6])

$N3
RT1 RT2 RT3 RT4
```

```
"0" "0" "0" "0"
```

```
$N6
```

```
RT7 RT8 RT10  
"0" "0" "0"
```

```
$N8
```

```
RT10 RT11  
"0" "0"
```

```
$N9
```

```
RT9 RT11 RT12  
"0" "0" "0"
```

```
$RT1
```

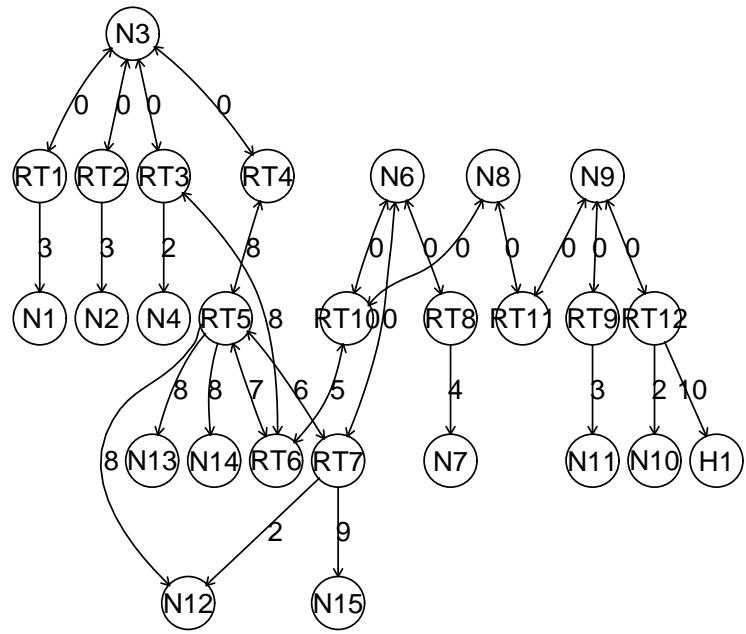
```
N1 N3  
"3" "1"
```

```
$RT10
```

```
RT6 N6 N8  
"5" "1" "3"
```

The plot that we get from Rgraphviz shows the bidirectional edges as doubleheaded arrows and gives only one of the relevant weights.

```
> library(Rgraphviz)  
> plot(ospf, edgeLabels = wlabs(ospf))
```



It seems to me we may need to add an option to give rendering of separate edges for bidirectional connections, allowing separate edgelabels for such connections. The graphNEL representation contains the necessary information.