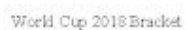


```

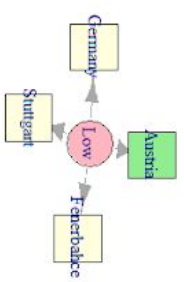
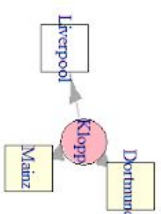
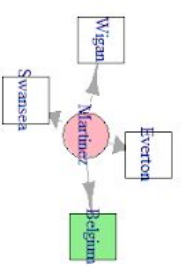
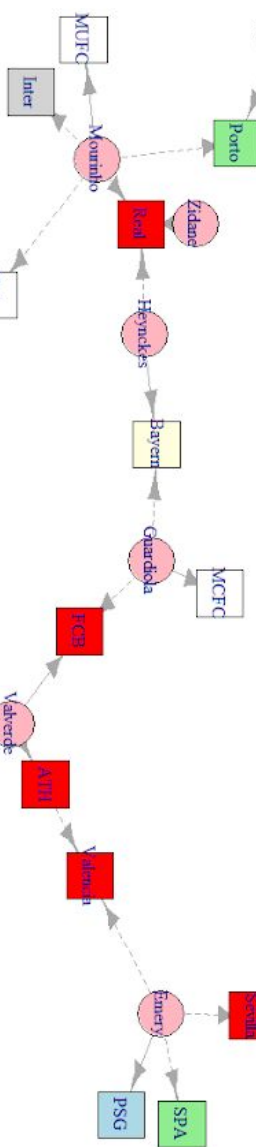
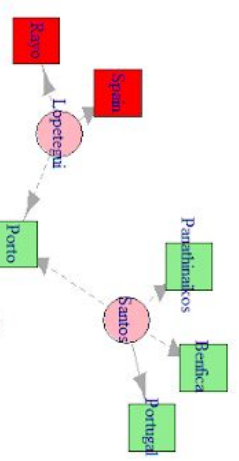
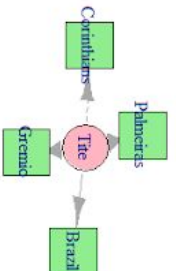
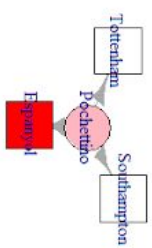
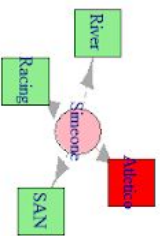
1)
digraph my_graph{
rankdir = LR
node [color=Red,fontname=Courier,shape=box]
edge [color=Blue, style=dashed]
graph [size="8.5,11" label = "World Cup 2018 Bracket"]
01 [label=<Uruguay 2>]
02 [label=<Portugal 1>]
03 [label=<France 4>]
04 [label=<Argentina 3>]
05 [label=<Brazil 2>]
06 [label=<Mexico 0>]
07 [label=<Belgium 3>]
08 [label=<Japan 2>]
09 [label=<Spain 1 (3)>]
10 [label=<Russia 1 (4)>]
11 [label=<Croatia 1 (3)>]
12 [label=<Denmark 1 (2)>]
13 [label=<Sweden 1>]
14 [label=<Switzerland 0>]
15 [label=<Columbia 1 (3)>]
16 [label=<England 1 (4)>]
17 [label=<Uruguay 0>]
18 [label=<France 2>]
19 [label=<Brazil 1>]
20 [label=<Belgium 2>]
21 [label=<Russia 2 (3)>]
22 [label=<Croatia 2 (4)>]
23 [label=<Sweden 0>]
24 [label=<England 2>]
25 [label=<France>]
26 [label=<Belgium>]
27 [label=<Croatia>]
28 [label=<England>]
29 [label=<France>]
30 [label=<Croatia>]
31 [label=<France>]
01 -> 17
02 -> 17
03 -> 18
04 -> 18
05 -> 19
06 -> 19
07 -> 20
08 -> 20
09 -> 21

```

}

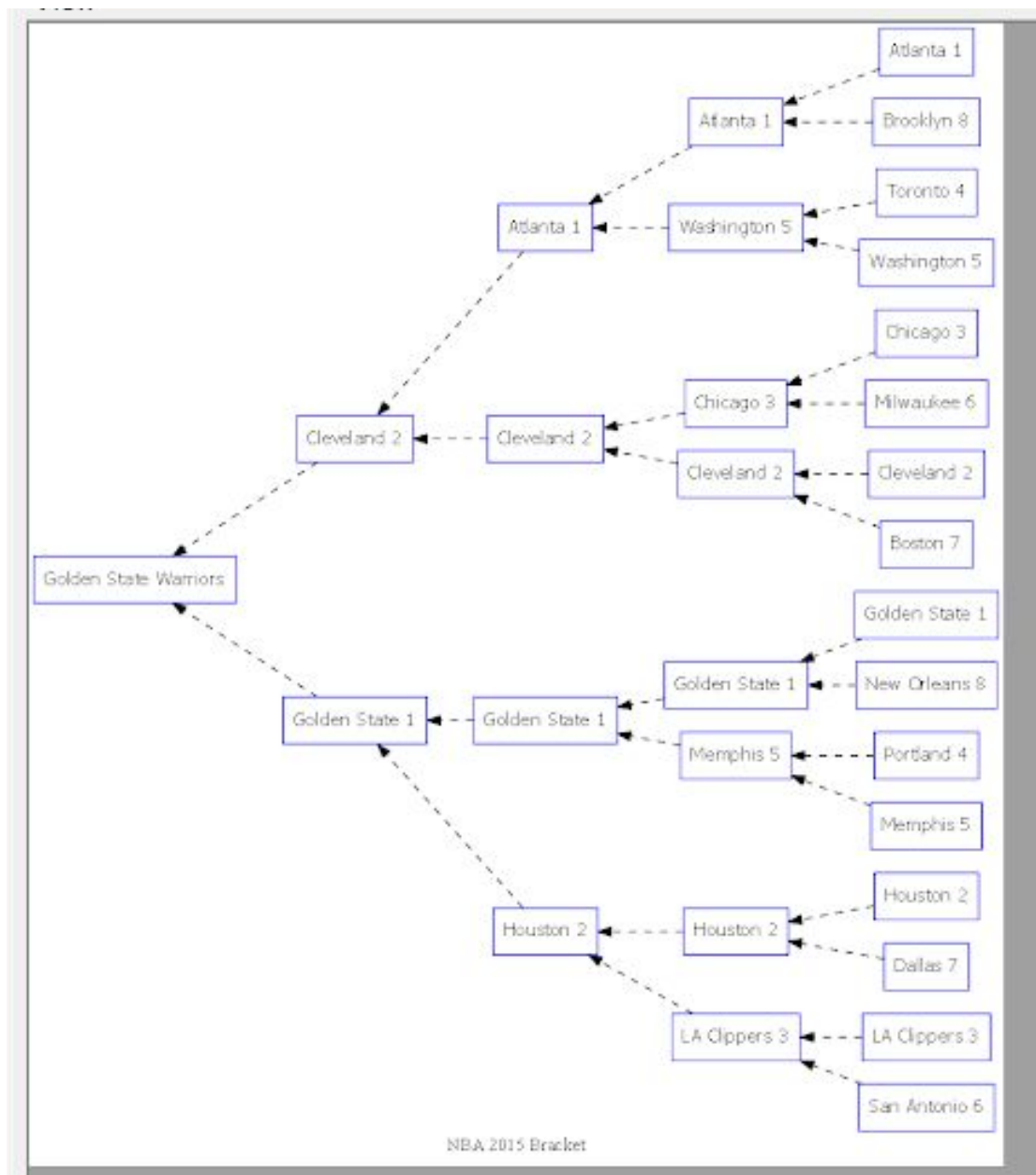



```
gra <- graph_from_data_frame(edges, vertices = vertexes)
E(gra)$weight <- 0.005
fr <- layout_with_fr(gra) * 0.4
plot(gra, layout = fr)
```

```
library(igraph)
vertexes <- read.csv("vertex_list.csv")
edges <- read.csv("edges_list.csv")
gra <- graph_from_data_frame(edges, vertices = vertexes)
E(gra)$weight <- 0.001
fr <- layout_with_fr(gra) * 0.4
par(mar=c(0,0,0,0)+.1)
plot(gra, layout = fr, rescale = FALSE, asp=0, ylim=c(-1.5,4.5), xlim=c(-2,4.5))
```

3)




```

digraph my_graph{
rankdir = RL
node [color=Blue,fontname=Century,shape=box]
edge [color=Black, style=dashed]
graph [size="8.5,11" label = "NBA 2015 Bracket"]
01 [label=<Golden State 1>]
02 [label=<New Orleans 8>]
03 [label=<Portland 4>]
04 [label=<Memphis 5>]
05 [label=<LA Clippers 3>]
06 [label=<San Antonio 6>]
07 [label=<Houston 2>]
08 [label=<Dallas 7>]
09 [label=<Atlanta 1>]
10 [label=<Brooklyn 8>]
11 [label=<Toronto 4>]
12 [label=<Washington 5>]
13 [label=<Chicago 3>]
14 [label=<Milwaukee 6>]
15 [label=<Cleveland 2>]
16 [label=<Boston 7>]
17 [label=<Golden State 1>]
18 [label=<Memphis 5>]
19 [label=<LA Clippers 3>]
20 [label=<Houston 2>]
21 [label=<Atlanta 1>]
22 [label=<Washington 5>]
23 [label=<Chicago 3>]
24 [label=<Cleveland 2>]
25 [label=<Golden State 1>]
26 [label=<Houston 2>]
27 [label=<Atlanta 1>]
28 [label=<Cleveland 2>]
29 [label=<Golden State 1>]
30 [label=<Cleveland 2>]
31 [label=<Golden State Warriors>]
01 -> 17
02 -> 17
03 -> 18
04 -> 18
05 -> 19
06 -> 19
07 -> 20
08 -> 20
09 -> 21
10 -> 21

```

11 -> 22
12 -> 22
13 -> 23
14 -> 23
15 -> 24
16 -> 24
17 -> 25
18 -> 25
19 -> 26
20 -> 26
21 -> 27
22 -> 27
23 -> 28
24 -> 28
25 -> 29
26 -> 29
27 -> 30
28 -> 30
29 -> 31
30 -> 31
}