

## Solutions for chapter Graph Layout

### Exercise 1

```
> graph.par(list(graph=list("cex.main=2.5")))
> x = layoutGraph(g, layoutType="neato")
> renderGraph(x, graph.pars=list(graph=list(main="neato")))
```

```
> x = layoutGraph(g, layoutType="twopi")
> renderGraph(x, graph.pars=list(graph=list(main="twopi")))
```

```
> x = layoutGraph(g, layoutType="circo")
> renderGraph(x, graph.pars=list(graph=list(main="circo")))
```

```
> x = layoutGraph(g, layoutType="fdp")
> renderGraph(x, graph.pars=list(graph=list(main="fdp")))
```

### Exercise 2

This exercise is open-ended and it has no unique solution. Consult the documentation of `renderParameters` for its parameters.

```
> ? renderParameters
```

### Exercise 3

Currently **Rgraphviz** supports the following node shapes: “circle”, “ellipse”, and “rect”.

```
> ? layoutParameters
```

`drawNodes` can be used for user-defined node plotting. It takes a function which will be called to render a single node. Alternatively, a named list of functions with list names equal to node names can be used to render each node differently.

### Exercise 4

```
> colors = rep("lightgreen", length(nodes(IMCAGraph)))
> names(colors) = nodes(IMCAGraph)
> transp = c("ITGB", "ITGA", "MYO", "ACTN", "JNK", "p110",
            "Phosphatidylinositol signaling system",
            "PI5K", "MYO-P", "cell maintenance", "cell motility",
            "F-actin", "cell proliferation")
> colors[transp] = "transparent"
> nodeRenderInfo(IMCAGraph) = list(fill=colors)
> renderGraph(IMCAGraph)
```

### Exercise 5

```
> sg4 = subGraph(c("GRB2", "SOS", "Ha-Ras", "Raf",
                "MEK", "ERK"), IMCAGraph)
> subGList = append(subGList, list(list(graph=sg4)))
> IMCAGraph = layoutGraph(IMCAGraph, attrs=attrs,
                        nodeAttrs=nodeAttrs, subGList=subGList)
> renderGraph(IMCAGraph)
```