

```

1 {
2   "nodes": [
3     {"name": "a", "depth": 0}, {"name": "b", "depth": 1},
4     {"name": "c", "depth": 1}, {"name": "d", "depth": 2},
5     {"name": "e", "depth": 2}, {"name": "f", "depth": 2}
6   ],
7   "links": [
8     {"source": 0, "target": 1},
9     {"source": 0, "target": 2},
10    {"source": 1, "target": 3},
11    {"source": 2, "target": 4},
12    {"source": 2, "target": 5}
13  ],
14  "constraintDefinitions": [
15    {
16      "name": "layer",
17      "sets": {"partition": "depth"},
18      "forEach": [{ "constraint": "align", "axis": "x" }]
19    },
20    {
21      "name": "sort",
22      "sets": ["layer"],
23      "forEach": [{ "constraint": "order", "axis": "y", "by": "depth" }]
24    }
25  ]
26 }

```

3 sets: [a], [b,c], [d,e,f]
3 constraints

1 set: "layer"
8 constraints

```

1 {
2   "nodes": [
3     {"name": "a", "_id": 0, "depth": 0}, {"name": "b", "_id": 1, "depth": 1},
4     {"name": "c", "_id": 2, "depth": 1}, {"name": "d", "_id": 3, "depth": 2},
5     {"name": "e", "_id": 4, "depth": 2}, {"name": "f", "_id": 5, "depth": 2},
6     {
7       "name": "boundary0", "_id": 6, "cid": "set0_order",
8       "temp": true, "fixed": true,
9       "width": 1, "height": 1, "padding": 0,
10      "boundary": "y", "y": 0, "x": 0,
11    },
12    {
13      "name": "boundary1", "_id": 7, "cid": "set0_order",
14      "temp": true, "fixed": true,
15      "width": 1, "height": 1, "padding": 0,
16      "boundary": "y", "y": 30, "x": 10,
17    }
18  ],
19  "links": [...],
20  "constraints": [
21    {
22      "type": "alignment", "axis": "y",
23      "offsets": [{"node": 0, "offset": 0}],
24      "_type": "layer_align"
25    },
26    {
27      "type": "alignment", "axis": "y",
28      "offsets": [{"node": 1, "offset": 0}, {"node": 2, "offset": 0}],
29      "_type": "layer_align"
30    },
31    {
32      "type": "alignment", "axis": "y",
33      "offsets": [{"node": 3, "offset": 0}, {"node": 4, "offset": 0}, {"node": 5, "offset": 0}],
34      "_type": "layer_align"
35    },
36    {"_type": "set0_order", "axis": "y", "gap": 0, "left": 0, "right": 6},
37    {"_type": "set0_order", "axis": "y", "gap": 0, "left": 6, "right": 1},
38    {"_type": "set0_order", "axis": "y", "gap": 0, "left": 1, "right": 7},
39    {"_type": "set0_order", "axis": "y", "gap": 0, "left": 6, "right": 2},
40    {"_type": "set0_order", "axis": "y", "gap": 0, "left": 2, "right": 7},
41    {"_type": "set0_order", "axis": "y", "gap": 0, "left": 7, "right": 3},
42    {"_type": "set0_order", "axis": "y", "gap": 0, "left": 7, "right": 4},
43    {"_type": "set0_order", "axis": "y", "gap": 0, "left": 7, "right": 5}
44  ]
45 }

```

Two temporary nodes are added to the graph to act as boundaries for the order constraint.

We generate three WebCoLa alignment constraints: one for each set produced by the SetCoLa "layer" constraint definition.

We generate eight WebCoLa position constraints to order the three layers based on the SetCoLa "sort" constraint definition.