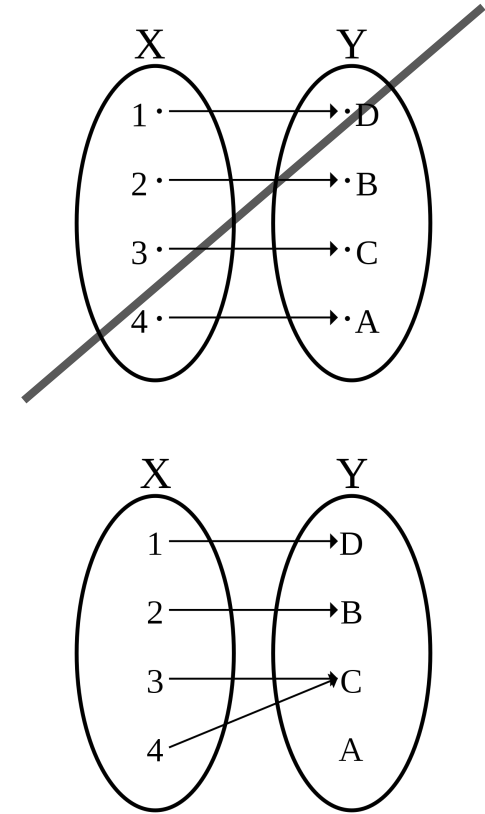


# SDF Quality for Round Trips

- Problem: A model converted to SDF and back (i.e. making a round trip) will differ substantially from the original if no additional measures are taken
- Why? Conversion between SDF and other formats does not always work in an injective, one-to-one manner
- Solution: *a new SDF quality*



# SDF Quality for Round Trips: Suggestion

- Statement *origin* in *sdfinfo* specifies original format
- *commonqualities* are extended by *origin* statement containing a named set of *originqualities*

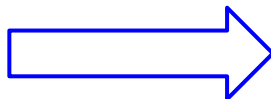
```
17 sdfinfo = {
18   title: text
19   version: text
20   copyright: text
21   license: text
22   ? origin : {
23     formatname : text ; e.g. "YANG"
24     ? formatref : text ; e.g. "RFC 7950"
25   }
26   EXTENSION-POINT<"info-ext">
27 }
...
37 originqualities = (
38   ? statement : text ; e.g. "type"
39   ? argument : text ; e.g. "union"
40 )
...
42 commonqualities = (
43   ? description: text
44   ? label: text
45   ? $comment: text
46   ? sdfRef: sdf-pointer
47   ? sdfRequired: pointer-list
48   ? origin : named<originqualities>
49 )
...
```

Extension of the formal SDF syntax  
(Appendix A of draft-ietf-asdf-sdf-05)

# SDF Quality for Round Trips: Example

```
1 module example {  
2   namespace "...";  
3   prefix "...";  
4  
5   typedef exampleTpdf {  
6     type union {  
7       type string;  
8       type dec64;  
9     }  
10  }  
11 }
```

YANG definition of a derived type  
based on the *union* built-in type



```
1 {  
2   "info": {  
3     "copyright": "...",  
4     "license": "...",  
5     "title": "...",  
6     "version": "...",  
7     "origin" : {  
8       "formatname" : "YANG",  
9       "formatref" : "RFC 7950"  
10    }  
11  },  
12  "sdfData": {  
13    "exampleTpdf" : {  
14      "sdfChoice" : {  
15        "string": { "type" : "string" }  
16        "dec64": { "type" : "number" }  
17      }  
18      "origin" : {  
19        "typedef" : {  
20          "statement" : "typedef"  
21        },  
22        "type" : {  
23          "statement" : "type",  
24          "argument" : "union"  
25        }  
26      }  
27    }  
28  }  
29 }
```

Conversion to SDF