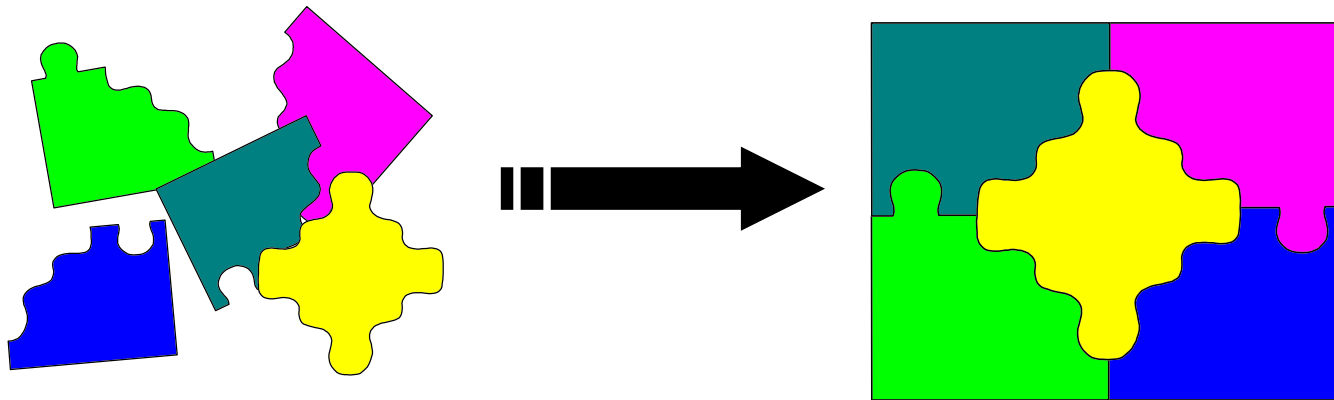


Exercises:

Configuration Management with ClearCase



What is ClearCase?



ClearCase is...

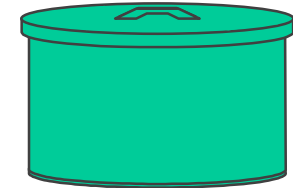


- **Version management tool for all types of files and directories**
 - records all actions
 - reports history
 - accurate reproduction of every release
- **Available both in Unix and Windows NT environments**
- **Two user interfaces**
 - command line: 'cleartool'
 - graphical: 'xclearcase'

Basic Concepts

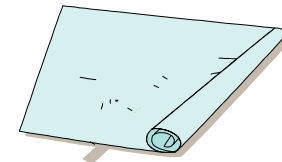
- **VOB**

- Versioned Object Base
- the whole database consists of several VOBs



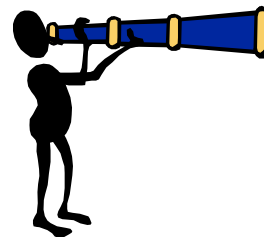
- **CONFIG SPEC**

- configuration specification (file) that defines what version of each VOB element you see in your view



- **VIEW**

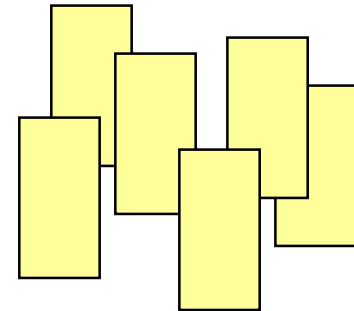
- a working area from where you have access to the VOB
- each individual developer or closely coordinated group has an own view



Basic Concepts (cont.)

- **ELEMENT**

- file or directory that is stored in a VOB

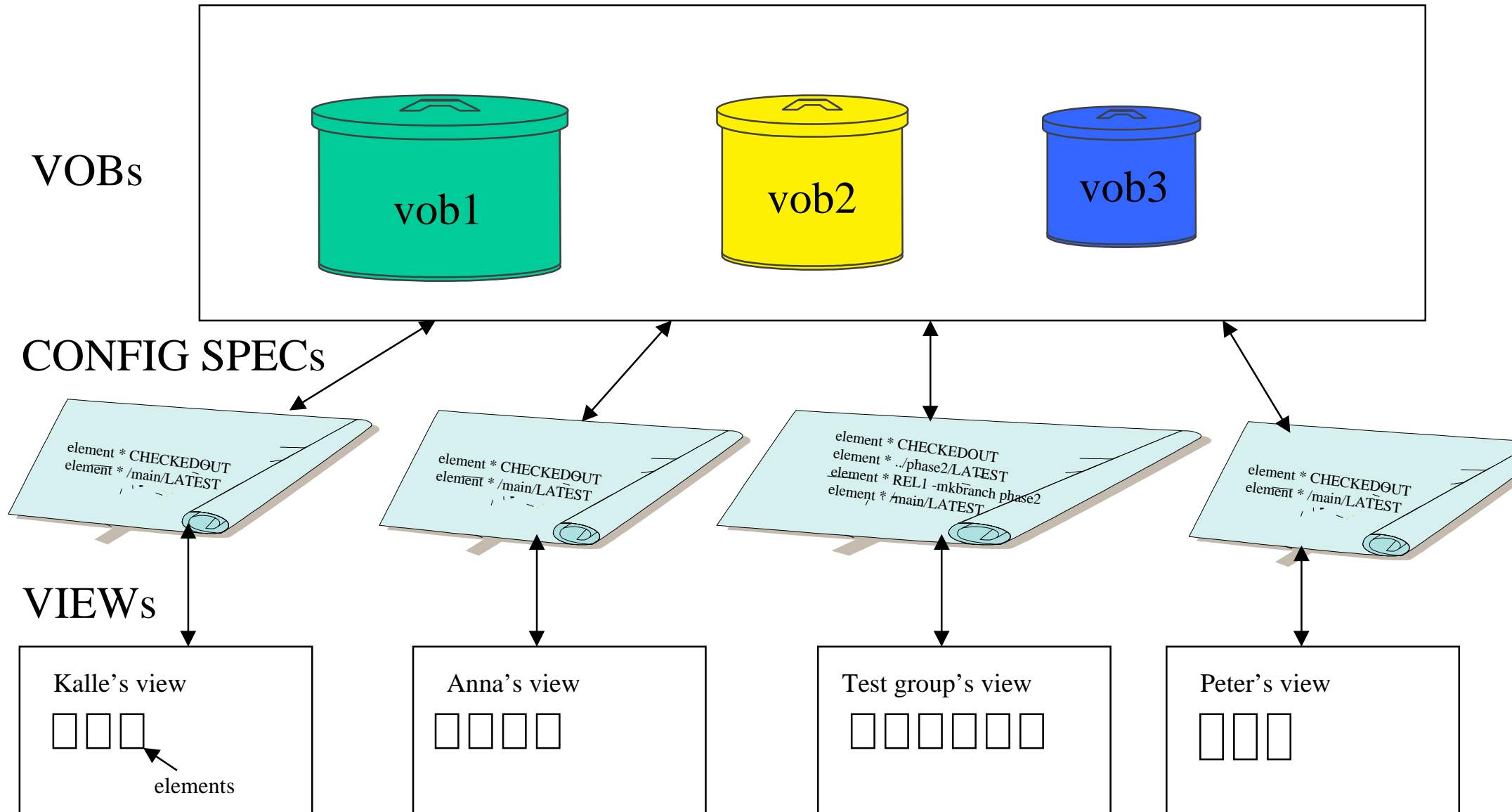


- **META-DATA**

types:

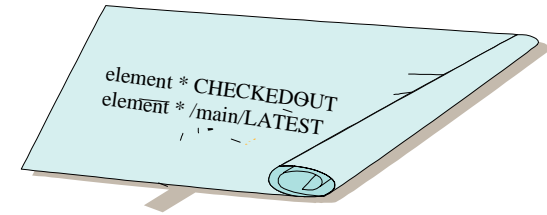
- labels
 - attributes
 - hyperlinks
 - triggers
-
- can be connected to a specific version of an element, or to a branch, or to the entire element

Basic Concepts (cont.)



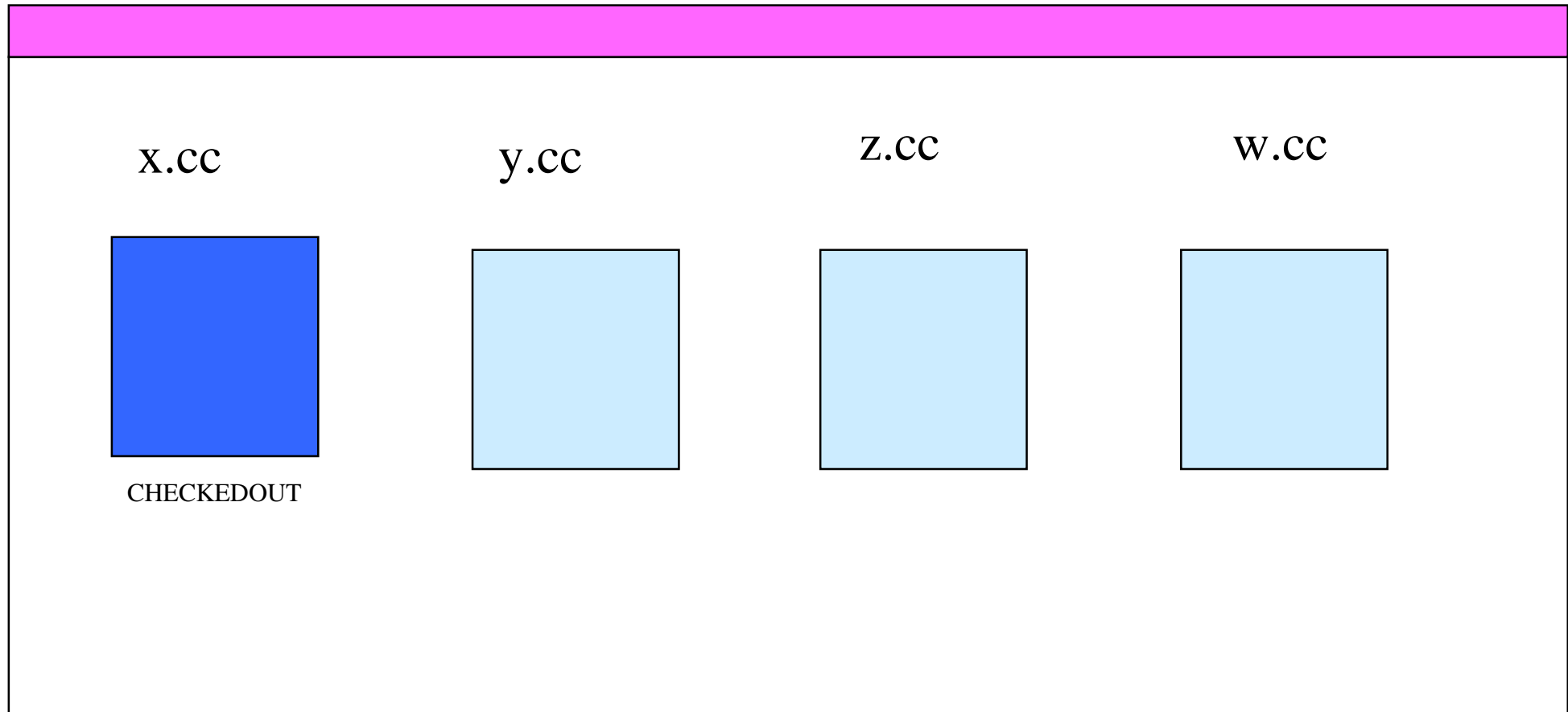
Default Config Spec:

```
element * CHECKEDOUT  
element * /main/LATEST
```

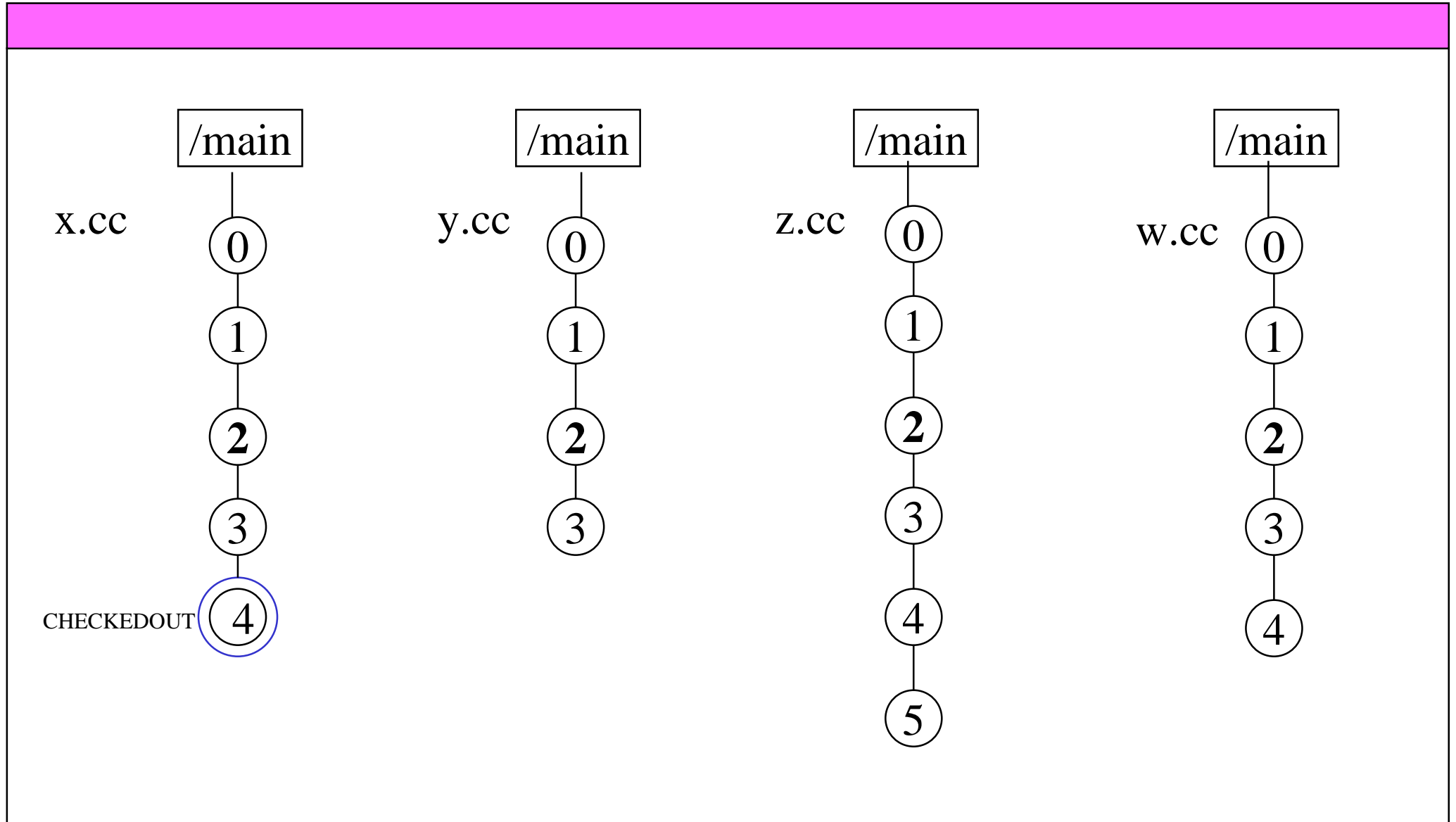


- a rule per line
- rules are processed from top to bottom; if no matching version of an element was not found for the first rule, the system tries to find a version that matches the second rule etc.

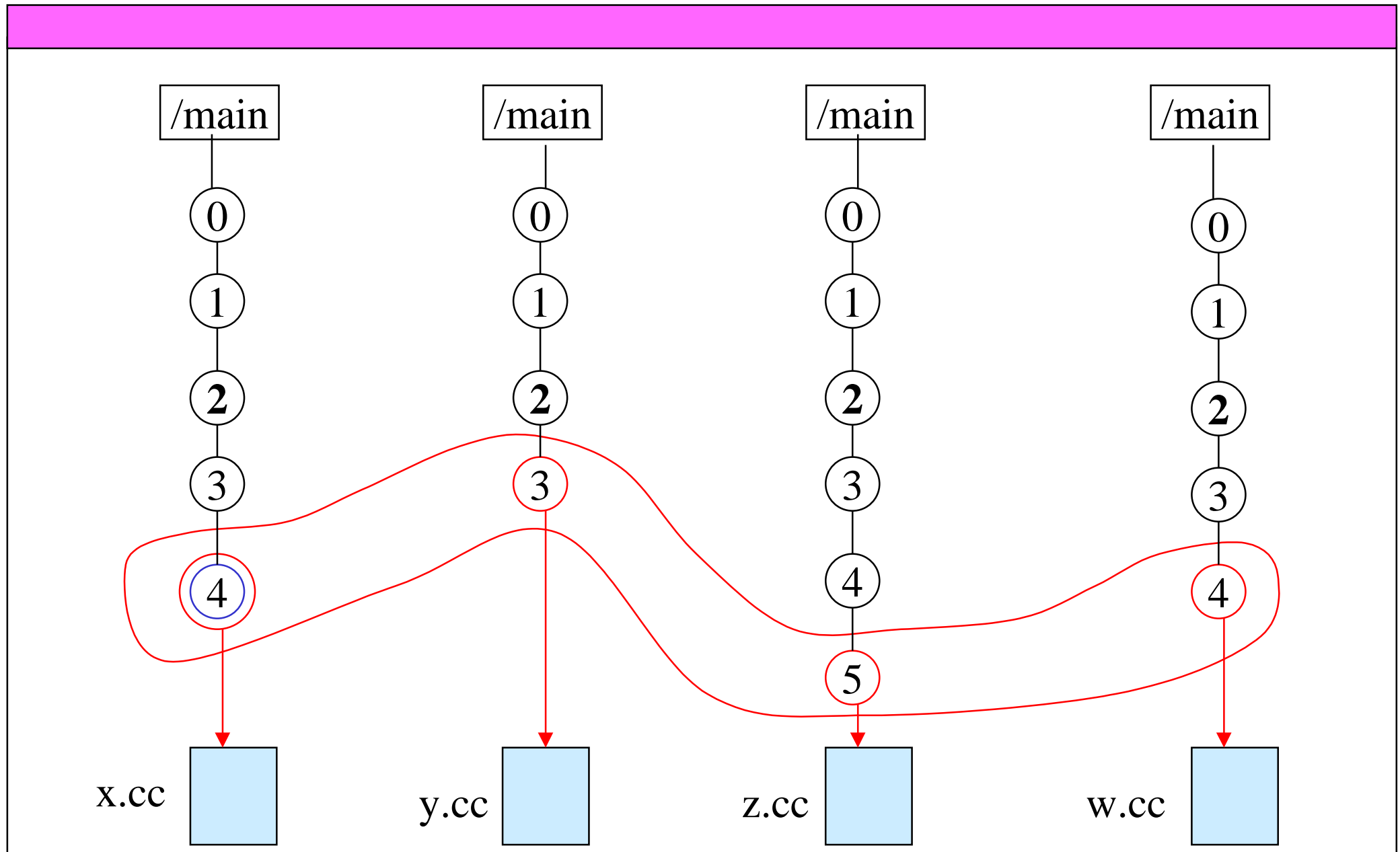
Files in a Normal View Window



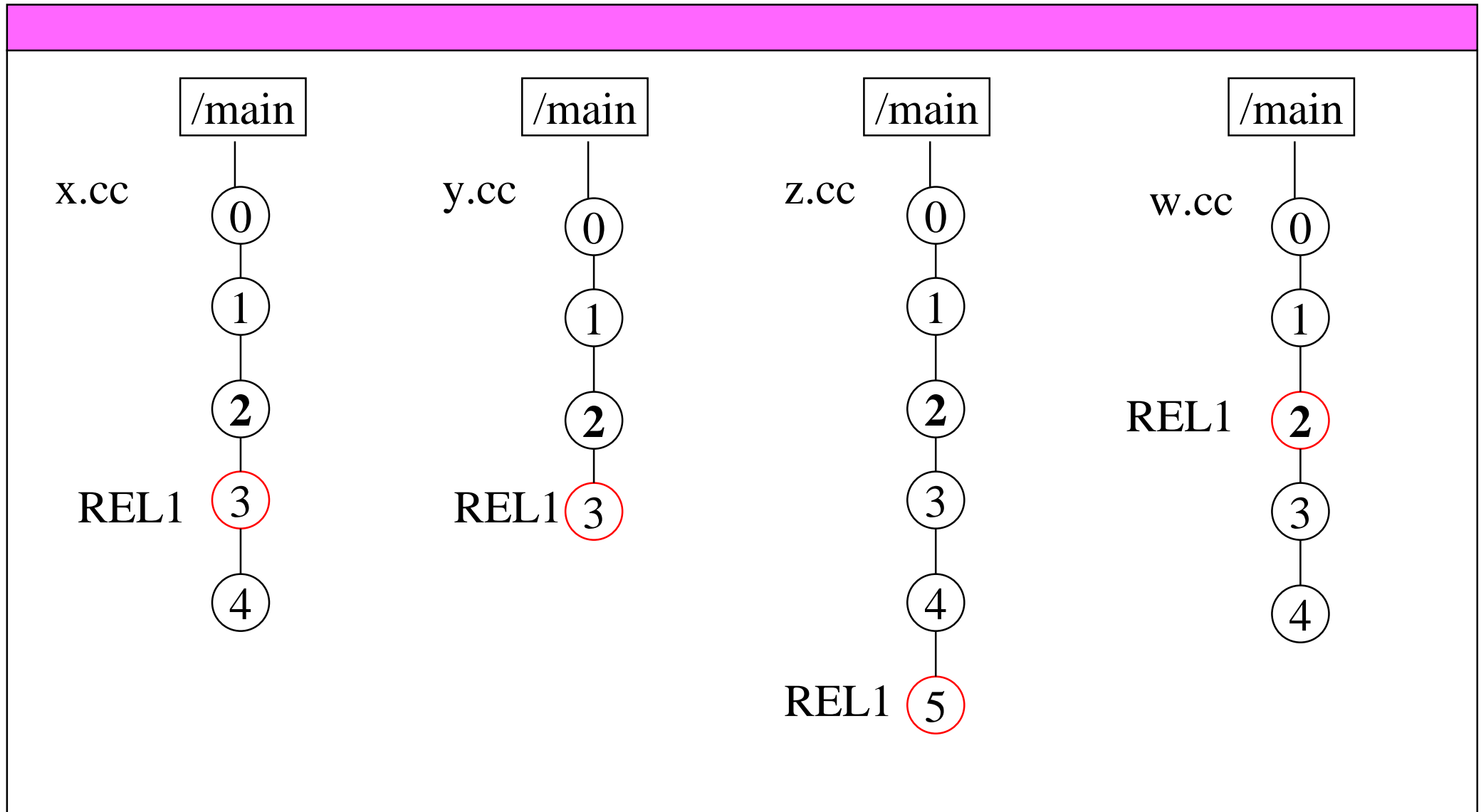
Files in Version Tree Browser Window



Versions that match with Default Config Spec

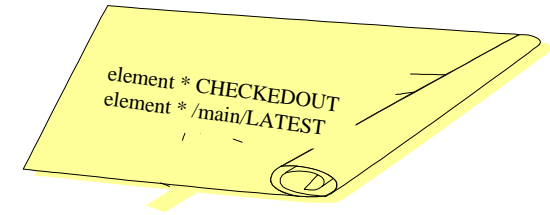


Labelling

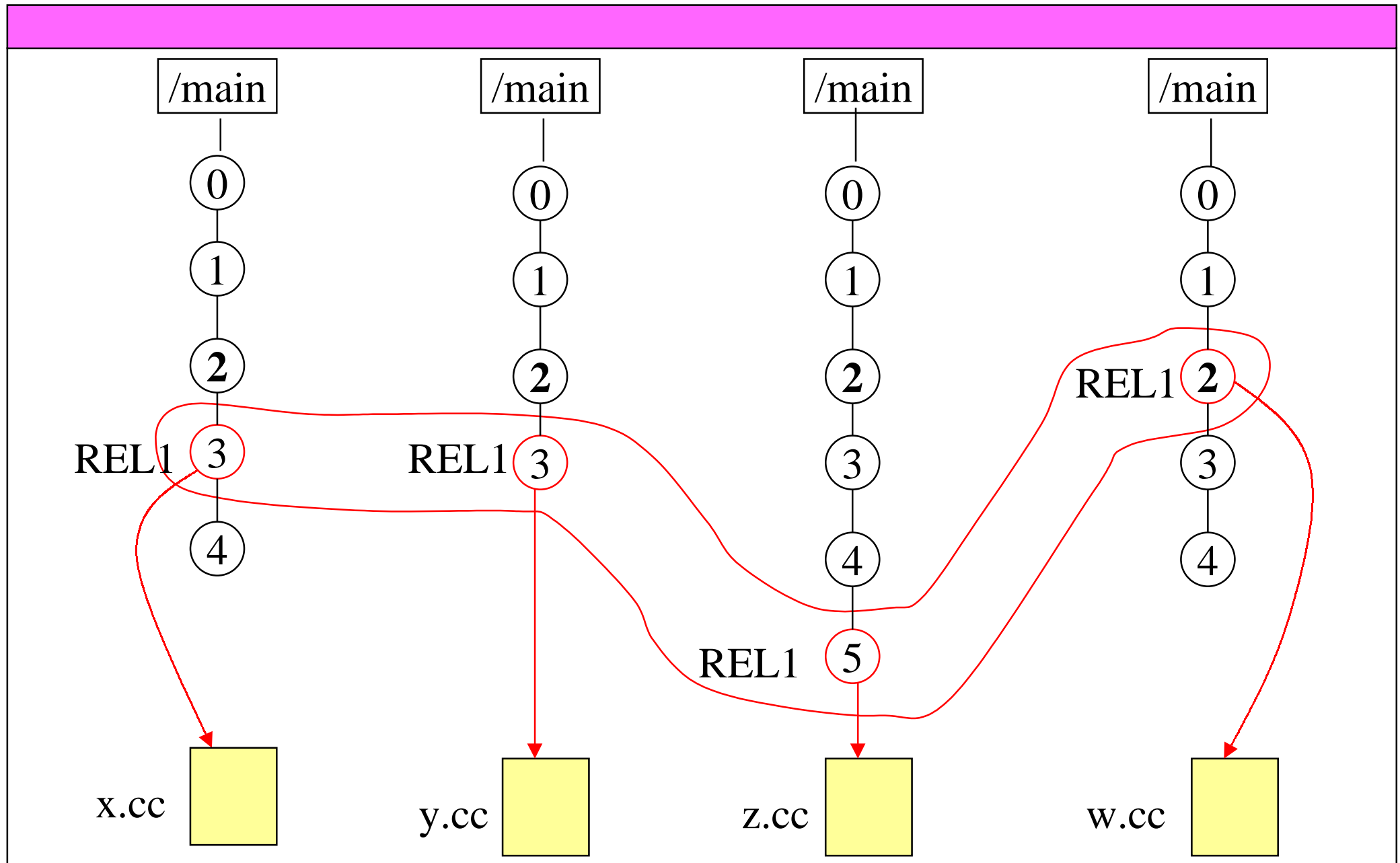


Example of Config Spec for Label 'REL1':

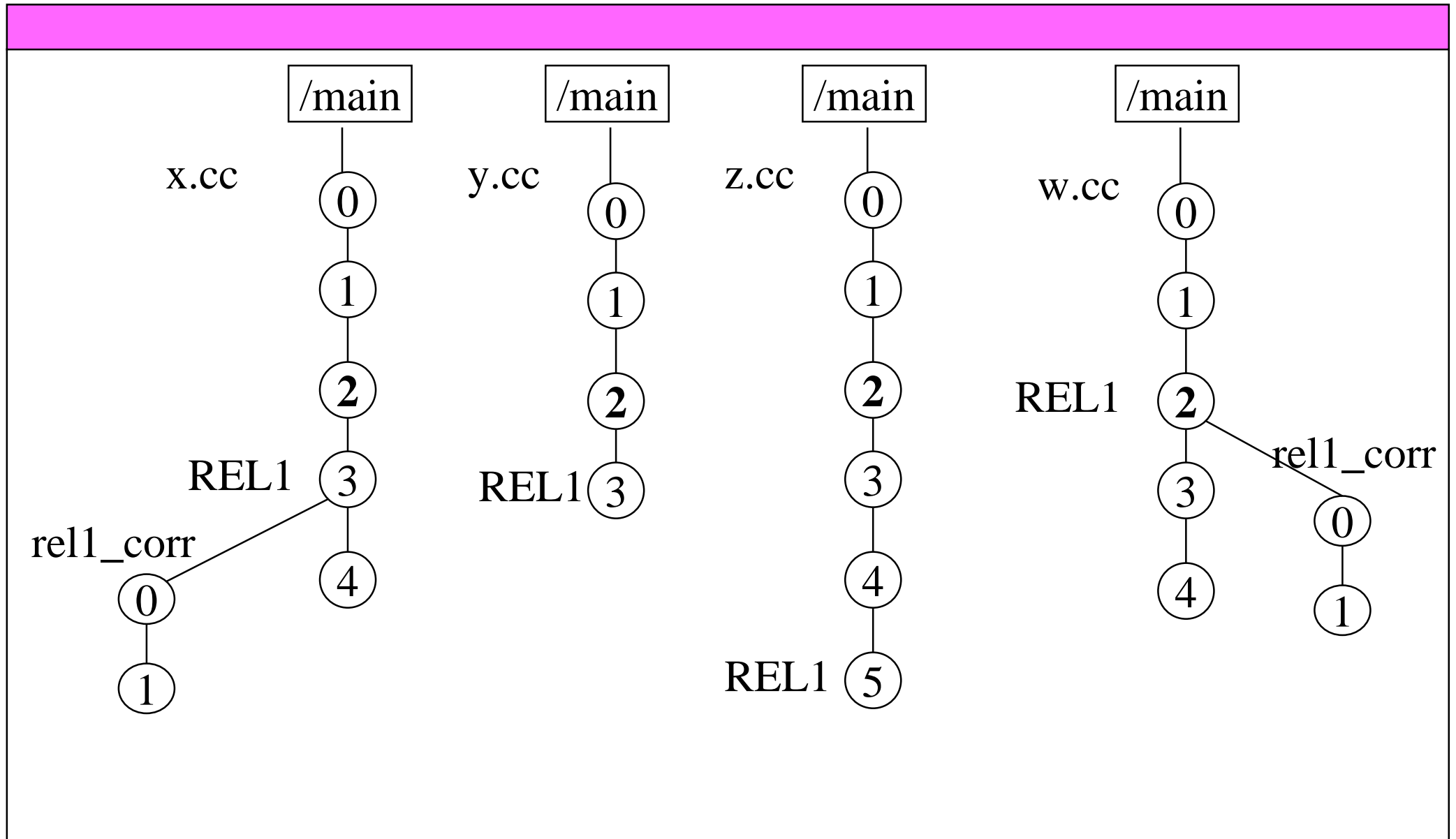
```
element * REL1  
element * /main/LATEST
```



Versions that match using the Config Spec for 'REL1'

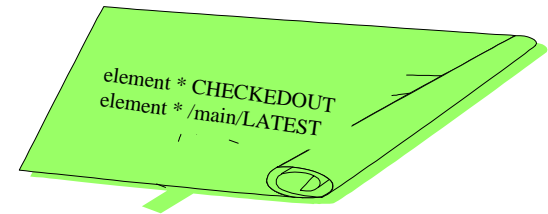


Branching

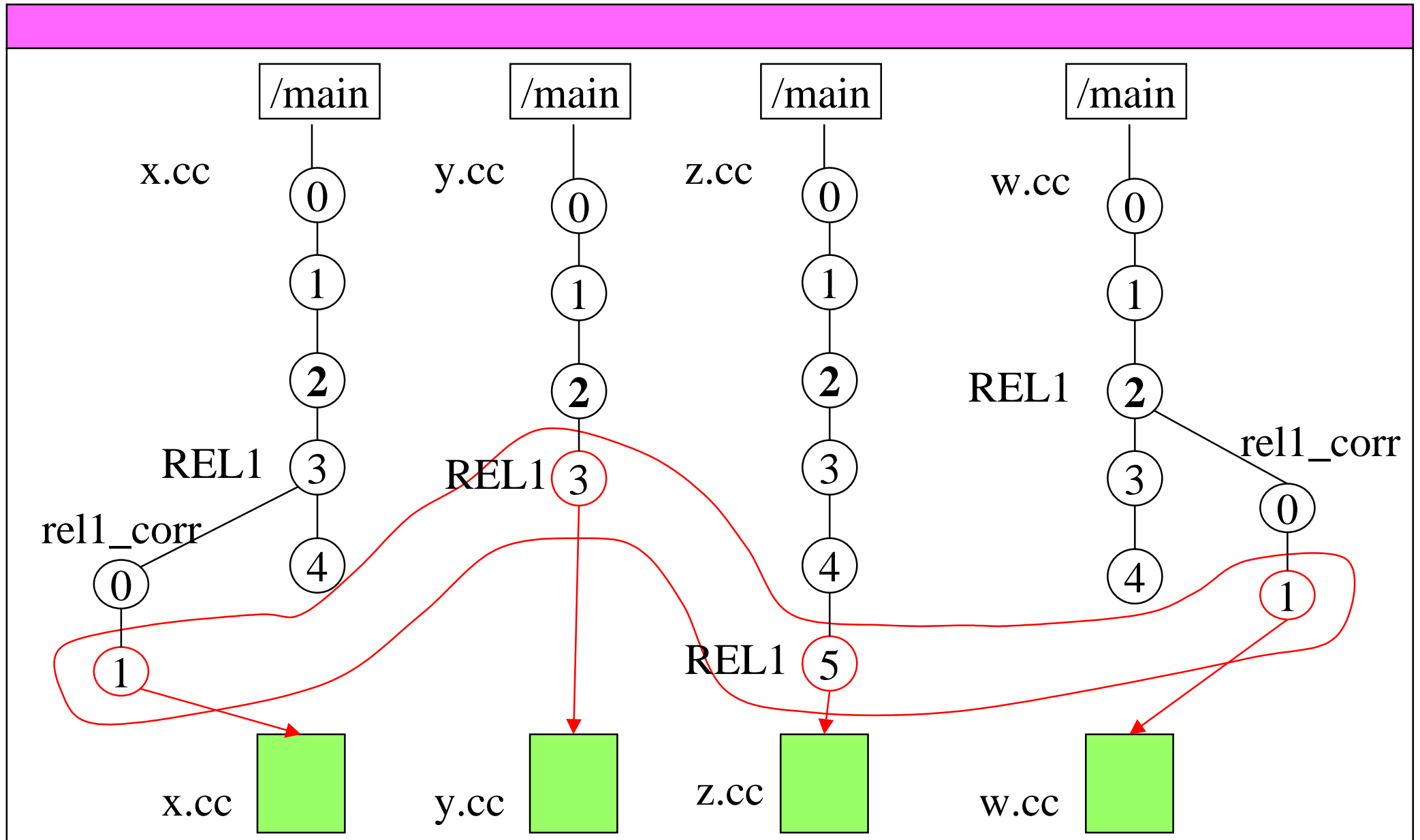


Example of 'Branch Config Spec'

```
element * CHECKEDOUT
element * /main/rel1_corr/LATEST
element * REL1 -mkbranch rel1_corr
element * /main/LATEST
```



Versions that match using the 'Branch Config Spec'



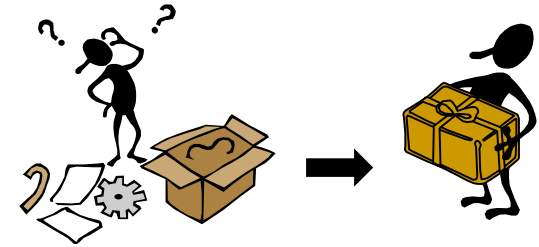
Basic Actions for an Element

- **Checkout**
 - a new editable version is created
 - only one person can edit the file at the same time
- **Checkin**
 - the version that was created by checkout command is saved to the VOB and is then visible to the other views
 - the element changes to write-protected mode
- **Uncheckout**
 - undo operation for checkout

Other Utilities

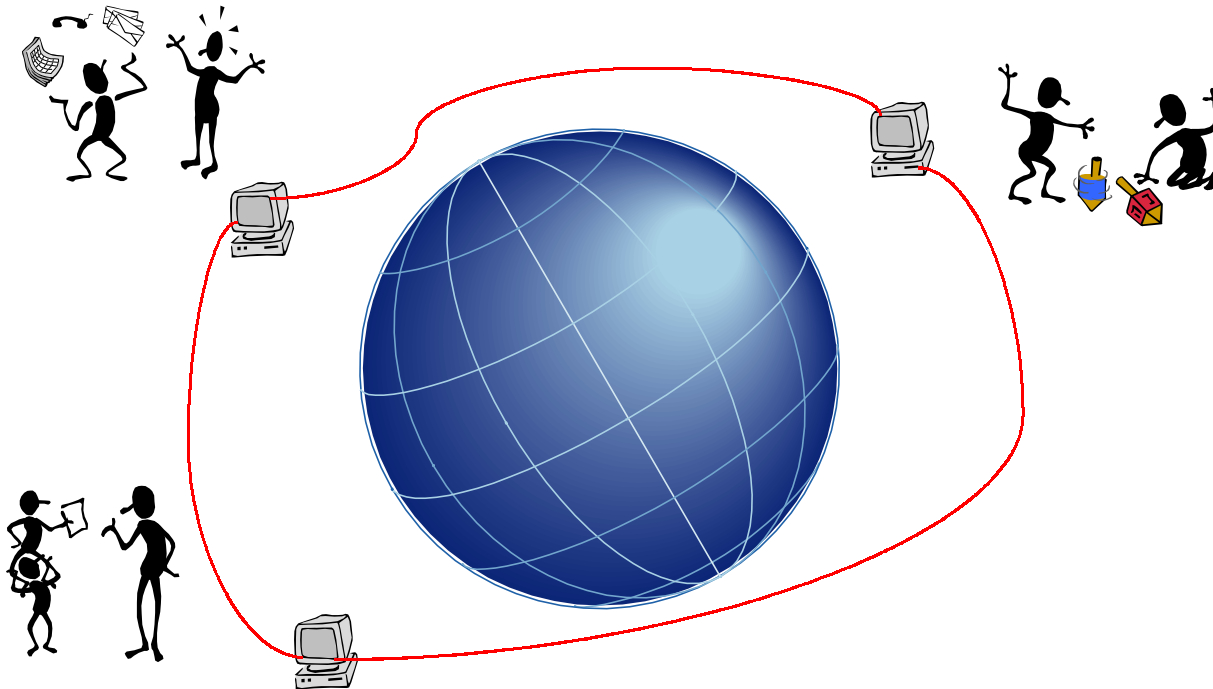
- **Clearmake**

- ClearCase variant of the Unix 'make' utility



- **MultiSite**

- same VOB is used concurrently at several different locations



That's ClearCase!



Let's try how it works in practise ...