

Exercise: Model a File System in Alloy

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Here are the requirements for a file system:

1. A file system object can have a parent
2. A directory is a special kind of file system object
3. A directory contains file system objects
4. A file is a special kind of file system objects
5. There is one special directory which is called the root and has no parent
6. A directory is the parent of its contents
7. Every file system object is in one directory
8. A directory can not be in itself
9. A directory can not be one of its ancestors
10. It is possible to have directories containing several objects
11. All file system objects must have one parent

1/ Implement them in Alloy

2/ Find the specification bug

3/ Fix the specification bug

You hand out the Alloy file directly. Highlight the bug and fix with `** **`.