

## 6. Exercises

Exercises from the book using [vsfs.py](#):

```
$ python ./vsfs.py -n 4
```

Initial state

```
inode bitmap  10000000
inodes        [d a:0 r:2] [] [] [] [] [] [] []
data bitmap   10000000
data          [(.,0) (.,0)] [] [] [] [] [] [] []
```

Which operation took place?

```
inode bitmap  11000000
inodes        [d a:0 r:3] [d a:1 r:2] [] [] [] [] [] []
data bitmap   11000000
data          [(.,0) (.,0) (g,1)] [(.,1) (.,0)] [] [] [] [] [] []
```

Which operation took place?

```
inode bitmap  11100000
inodes        [d a:0 r:3] [d a:1 r:2] [f a:-1 r:1] [] [] [] [] []
data bitmap   11000000
data          [(.,0) (.,0) (g,1) (q,2)] [(.,1) (.,0)] [] [] [] [] [] []
```

Which operation took place?

```
inode bitmap  11110000
inodes        [d a:0 r:3] [d a:1 r:2] [f a:-1 r:1] [f a:-1 r:1] [] [] [] []
data bitmap   11000000
data          [(.,0) (.,0) (g,1) (q,2) (u,3)] [(.,1) (.,0)] [] [] [] [] [] []
```

Which operation took place?

```
inode bitmap  11110000
inodes        [d a:0 r:3] [d a:1 r:2] [f a:-1 r:1] [f a:-1 r:2] [] [] [] []
data bitmap   11000000
data          [(.,0) (.,0) (g,1) (q,2) (u,3) (x,3)] [(.,1) (.,0)] [] [] [] [] [] []
```

```
$ python ./vsfs.py -n 4 -r
```

Initial state

```
inode bitmap  10000000
inodes        [d a:0 r:2] [] [] [] [] [] [] []
data bitmap   10000000
data          [(.,0) (.,0)] [] [] [] [] [] [] []
```

mkdir("/g"); State of file system (inode bitmap, inodes, data bitmap, data)?

creat("/q");

creat("/u");

link("/u", "/x");