Sunbeam Institute of Information Technology
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Module - Embedded Operating System

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Human readable format : rw- rw- r--
Numeric format (Octal) : 110 110 100 = 664

Permissions :   levels :
   r - read   u - user/owner
   w - write   g - group
   x - execute   o - others

            + : add
            - : remove

chmod ± rwx filename

e.g. chmod +x sample.txt
      - execute permission will be
added to all levels

chmod -r sample txt
      - read permission will be
removed from all levels

chmod u/g/o ± r/w/x filename

eg. chmod u+x sample.txt
      - add execute permission to user

chmod g-rw sample.txt
      - remove read & write permission
of group

chmod mode filename
            ↑
        numeric format

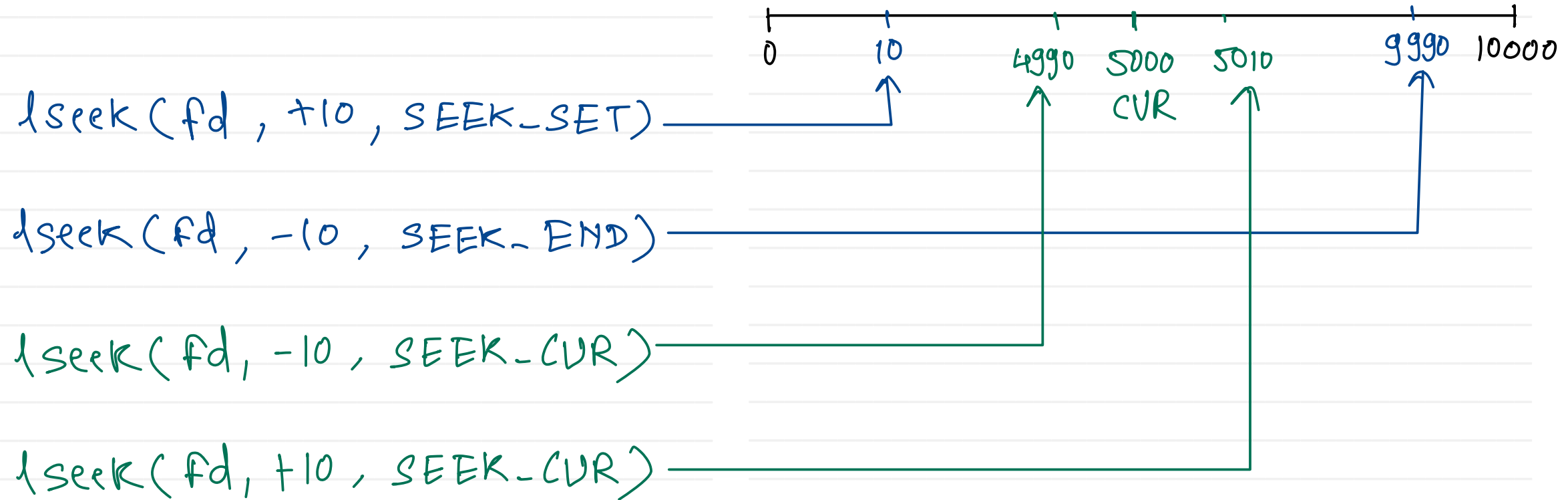add execute to user & remove write of group
Existing mode : rw- rw- r--
                110 110 100   (664)
                111 100 100   (744)
New mode   : rwx r-- r--
e.g. chmod 744 sample.txt

lseek(fd, +10, SEEK_SET)

lseek(fd, -10, SEEK_END)

lseek(fd, -10, SEEK_CUR)

lseek(fd, +10, SEEK_CUR)

Number line: 0, 10, 4990, 5000 CUR, 5010, 9990, 10000

Hard link

demo

| i_no = 922 |
| i-type=d |
| l-nlink=2 |

one.txt

| i_no = 924 |
| i-type=f |
| l-nlink=1 2 3 2 1 0 |

| | 922 |
| .. | 848 |
| ~~one.txt~~ 924 |
| ~~two.txt~~ 924 |
| ~~three.txt~~ 924 |

ln one.txt two.txt
ln one.txt three.txt

rm two.txt
rm three.txt
rm one.txt

| free_i = 924 | i | d |
| free_dblk=10000 | 924 c=1 0 | 10000 |
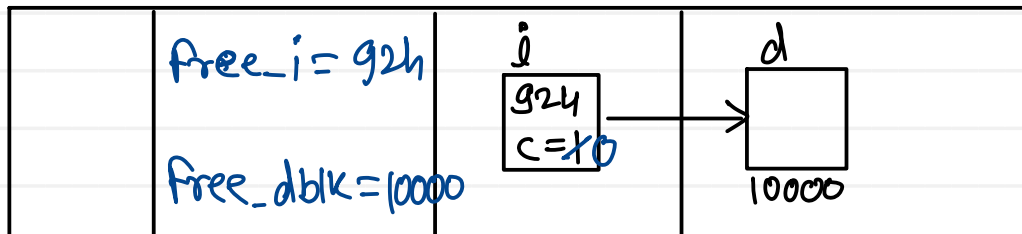
demo

| |
| . |
| .. |
| ~~abc.txt 924~~ |
| xyz.txt 924 |

abc.txt

| no=924 |
| nlink=1 2 1 |

rename
link (abc.txt, xyz.txt)
unlink (abc.txt)

Symbolic link

ln -s one.txt two.txt   ln -s /home/sunbeam/demo/one.txt three.txt

demo

```
i_no = 922
i_type = d
l_nlink = 2
```

```
.        922
..       848
one.txt  924
two.txt  925
three.txt 926
```

one.txt

```
i_no = 924
i_type = f
l_nlink = 1
```

```
=
=
=
=
```

two.txt

```
i_no = 925
i_type = f
l_nlink = 1
```

```
one.txt
```

three.txt

```
i_no = 926
i_type = f
l_nlink = 1
```

```
/home/sunbeam/
demo/one.txt
```

Thank you!!!

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