System Directory Hierarchy

/  
ru-auth  
local  
home  
unixinst  
unixst01  
unixst02  
others  
sequences  
bin  
Quotation  
quotation  
a4_bovin.sw  
1O91.pdb  
others
Relative Pathnames

```
cat ..:/unixinst/quotatation
```

```
/  
  ru-auth  
  local  
  home  
  unixinst  
  unixst01  
  unixst02  
  others  
  sequences  
  bin  
  Quotation  
  quotation  
  a4_bovin.sw  
  1O91.pdb  
  others
```
Your Directory Hierarchy

unixstxx

dat

human
  struct
  seq
  *.pdb
  *.fasta

cow
  struct
  seq
  *.pdb
  *.fasta

rodent
  struct
  seq
  *.pdb
  *.fasta

UNIX Commands: No Redirection

sort

stdin ➔ gear ➔ stdout

stderr ➔ gear ➔ stderr ➔ monitor
UNIX Commands: Redirect input

\texttt{sort < in.txt}
UNIX Commands: Redirect Output

`sort > sorted.txt`
UNIX Commands: Redirect Output

sort > sorted.txt 2> err.log
UNIX Commands: Combined Redirection

```
sort > sorted.txt 2>&1
```
UNIX Commands: More examples

sort < in.txt > sorted.txt
UNIX Commands: More examples

```
sort < in.txt >> sorted.txt
```
UNIX Commands: More examples

```
sort < in.txt > sorted.txt 2>&1
```

UNIX Commands: Pipes

egrep PAT < in.txt | sort | head -1 > first.txt
The *csplit* Command

```
csplit seq.fasta '%^>%' '/^>/' '{3}'
csplit seq.fasta '%^>%' '/^>/' '/^>/' '/^>/' '/^>/' '/^>/'
```

- **xx00**: >seqA
  - MNSGVRMVTRS
  - KVPVWEPQNWQ
- **xx01**: >seqB
  - MEPPVPQSSVP
  - GPELAPTPAR
- **xx02**: >seqC
  - PLDLKGPTAPP
  - CTNEDDEGSCA
- **xx03**: >seqD
  - SVICKAASGDT
  - MNWNNITLTIV
- **xx04**: >seqE
  - SFRNFLGDIGC
  - LISSNLLSYIK

%pattern% skip over this group (no file)
/pattern/ create file for this group
{\text{n}} repeat previous pattern \text{n} times

5 patterns = 6 groups

- Lines before the first match.
- Lines from the first match up to (but not including) the second match.
- Lines from the second match up to (but not including) the third match.
- Lines from the third match up to (but not including) the fourth match.
- Lines from the fourth match up to (but not including) the fifth match.
- Lines from the fifth match up to the end of the file.
Modes of *vi*

- **SURF**
  - Aa
  - Ii
  - Oo
  - `:wq`
  - `:q!`

- **EDIT**

- **COMMAND**

  `<Esc>`