



UNIX SHELL PROGRAMMING

SHELL AND FILTERS

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Department of Computer Science and
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PATTERN MATCHING

Special set of characters used by shell to match filenames are called **“WILD CARDS”**

If filenames are similar like: **ls chap chap01 chap02 chapt**

Then we can use **ls chap***

Shell will expand it suitably before the command executed.



Shell's Wild Cards

1. ***** Any number of characters including none
2. **?** A single character
3. **[ijk]** A single character either i, j, or k
4. **[a-z]** A single character within the Ascii range of a to Z
5. **[!ijk]** A single character not an i, j, or k
6. **[!a-z]** A single character that is not within the Ascii range of a to z
7. **{pat1, pat2}** matches pat1, pat2

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PATTERN MATCHING



The * and ?

Ex: ls chap*

echo *

rm *.o

ls chap?

Matching .

Ex: ls .???*

ls emp*lst

Note: * and ? Do not match . At beginning and /

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PATTERN MATCHING



Character class: [abcd] A single character enclosed are matched

Ex: ls chap[124]

ls chap[1-4]

ls [a-zA-Z]*

Negating the character class

*.[!co]

[!a-zA-Z]

Ex: rm *.[!o]

NOTE: c shell no mechanism for negating character class

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PATTERN MATCHING

Matching totally Dissimilar patterns

Command : `cp $HOME/dir/*.{c,java} .`

`cp /home/{dir1, dir2, dir3}/* .`

Note : `{}` does not work in bourne shell



Rounding up:

ls *.c → lists all the files with extension c

mv * ../bin → moves all files to bin subdirectory of parent directory

cp foo foo* copies foo to foo*

cp ????? Progs copies 5 character file names to Progs

lp note[0-1][0-9] prints file with file names note00 note01... note19

rm *.[!l][!o][!g] removes all files with three character extensions except the ones with .log extension.

cp -r /home/{dir,dir2,dir3} . // wont work in bourne shell

ESCAPING AND QUOTING

`ls chap*`

Result : `chap`, `chap*`, `chap01`, `chap03`, `chap02` etc.

`rm chap*` will remove all the files listed above but it is dangerous.

ESCAPING – Backslash \

QUOTING enclosing with the quotes

ESCAPING

```
rm chap\*
```

current directory has 4 files chap01, chap02, chap03,
chap0[1-3]

cat chap\[1-3\] would display only one file chap0[1-3]

space character is a special character

```
rm My\ Document.doc
```

```
echo \\\
```

UNIX SHELL echo PROGRAMMING

PATTERN MATCHING



Quoting

echo '\'

rm 'chap*'

rm "my Document.doc"

echo " the characters >, <, |, \$ are all special"

echo "the result at `date` is very good and it is \$Accuracy"

echo ' the result is `` very good \$Accuracy '

Ex: type echo

UNIX SHELL echo PROGRAMMING

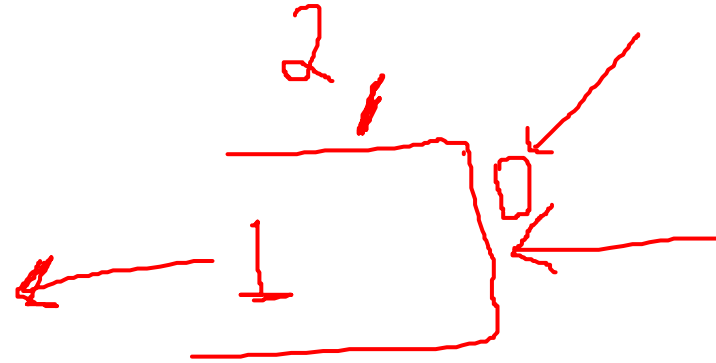
PATTERN MATCHING

Standard Input, Output and Error

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THANK YOU

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