

Day-4

NAME	M. Manjunath	TOTAL MARKS
CLASS	SUBJECT	
ROLL No. 56	DATE	

→ Pattern Matching

- * pattern matching is the act of checking a given sequence of tokens for the presence of the parts of some pattern.
- * pattern matching is done with the help of wildcharacters and metacharacters.
- * wildcards allow you to specify precisely a pattern that matches a set of filenames.
For eg:- *.pdf is used to get a list of all the pdf files.
wildcards are often referred as glob patterns

Pattern

Description

- | | |
|------------|--|
| * | - Match zero or more characters |
| ? | - Match any single character |
| [...] | - Match any of the char. in a set |
| ?(pattern) | - Match zero or one occurrence of the pattern. |
| *(pattern) | - Match zero or more occurrences of the pattern (ext+glob) |
| @(pattern) | - Match only one occurrence of pattern |
| !(pattern) | - Match anything that doesn't match pattern within () |

For Example :-

• \$ls

a.jpg b.pdf c.png d.pdf e.gif

- From the above files let's search for files using pattern matching

i.) `$ ls *.pdf`
dd.pdf b.pdf

ii.) `$ ls ?.pdf`
b.pdf

iii.) `$ ls [ab]*`
a.jpg b.pdf

iv.) `$ shopt -s extglob #turn on extended globbing.`

v.) `$ ls ?(*.jpg | *.gif)`
a.jpg e.gif

vi.) `$ ls !(*.jpg | *.gif)` #not a .jpg or .gif
c.png dd.pdf b.pdf

optional .

The following script uses pattern matching in a case statement to find whether a file is image/not

```
#!/bin/bash
```

```
#start
```

```
shopt -s extglob
```

```
for f in *
```

```
do
```

```
case $f in
```

```
!(*.gif | *.jpg | *.png)
```

```
echo "Not an image file : $f"
```

```
;;
```

```
*)
```

```
echo "Image file : $f"
```

```
;;
```

```
esac
```

```
done
```


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Output:

\$ bash @ file.sh a.jpg b.gif c.png d.pdf e.pdf

Image: a.jpg

Image: b.gif

Image: c.png

Not an image: d.pdf

Not an image: e.pdf

In the above example:- the pattern `!(*.gif|*.jpg|*.png)` will match a filename if it's not a gif, jpg or png.