

Day-4

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CLASS A	SUBJECT LSS	
ROLL NO. 21	DATE 3/4/22	

-> Pattern Matching:

- * Pattern matching is the act of checking a given sequence of tasks for the presence of the parts of some pattern
- * Pattern matching is done with 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

<u>Pattern</u>	<u>Description</u>
* *	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 (ent globe)
@(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 dd.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

\$ shopt -s extglob # turn on extended globbing

iv) \$ ls ?(*.jpg | *.gif)
a.jpg e.gif

v) \$ 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 or 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 file1.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 $!(\ast.jpg | \ast.jpg | \ast.png)$ will match a filename if it's not a gif jpg or png