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Use BASH nullglob To Verify *.c Files Exists or Not In a Directory

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Can you explain me usage of nullglob variable under BASH? How do I check for any *.c files in any directory?

BASH shell has the following two special variables to control pathname expansion. Bash scans each word for the characters *, ?, and [. If one of these characters appears, then the word is regarded as a pattern, and replaced with an alphabetically sorted list of file names matching the pattern.

[1]

a] **nullglob** : If set, bash allows patterns which match no files to expand to a null string, rather than themselves. This is useful to check for any *.mp3 or *.cpp files in directory.

b] **dotglob** If set, bash includes filenames beginning with a . in the results of pathname expansion.

How do I set and unset nullglob variable?

Use shopt command to toggle the values of variables. The -s option enable nullglob effects and the -u option disable nullglob option.

```
shopt -s nullglob # enable
shopt -u nullglob # disable
```

Here is sample shell script to see if *.mp3 exists or not in a directory:

```
#!/bin/bash
old=$(cd)
[ $# -eq 0 ] && exit 1
[ -d $1 ] && cd $1 || exit 2

shopt -s nullglob
found=0
for i in *.mp3; do
 echo "File $i found" # or take other action
 found=1
done
shopt -u nullglob
[ $found -eq 0 ] && echo "Directory is empty"
cd $old
```

Without nullglob i will expand to *.mp3 only if there are no files in given directory. You can also use GNU find command to find out if directory is empty or not i.e. check for any *.c files in a directory called ~/project/editor:

```
find ~/project/editor -maxdepth 0 -empty -exec echo {} directory is empty. \;
```

Where,

- **-maxdepth 0**: Do not scan for sub directories.
- **-empty** : File is empty and is either a regular file or a directory.
- **-exec echo {} directory is empty. \;** : Display message if directory is empty.

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