

# Wildcards

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Have you ever played the game uno? I have, and in the game there are two cards that we call wildcards. They can both change the color and one can give another player four extra cards. In programming, wildcards represent letters and characters that are used to specify a file name for searches. Now, wildcards are officially named metacharacter wildcards. When we use wildcards we can manage and create directories faster, move, delete, and create a group of files, and we can also get a long list of all files in the current directory starting with "new". The ( \* ) wildcard can match anything, nothing, and matches any number of characters. You can use the ( \* ) wildcard when you want to list all files with a particular file extension, when you don't remember the complete name of a file but remember a portion of it, also when you want to copy, move, or remove all files that match a particular naming convention. For example: `ls /home/photos/*.com`. The ( ? ) wildcard matches **precisely one character**. It can also be very useful when working with hidden files or "dot files". One thing that can get tricky with the ( ? ) wildcard is when working with the current or parent directory. This is because those two directories have names and in order to tell the system which directory you want. You'd have to add a single dot ( . ) for the current directory or two dots ( .. ) for the parent directory. For example: `ls /home/photos/.??*.com`. The ( [ ] ) wildcard matches a single character in a range. For example: `ls m[aeiou]`. This wildcard can also use the exclamation mark to reverse the match. For example: `ls m[!aeiou]*`.

## Brace expansion

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A brace expansion is not a wildcard but it is another feature of bash that allows you to generate arbitrary strings to use with commands. In order to use a brace expansion you must at least add an unquoted opening and closing brace and at least one unquoted comma. It allows you to create a whole directory structure in a single command. For example: `mkdir -p music/{jazz,rock}/{mp3files,videos}`. It can also create a N number of file. For example: `touch website{1..5}.html`. Also, removes multiple files in a single directory. For example: `rm -r {dir1,dir2,file.txt,file.py}`