A number of characters have a special meaning and cause certain actions to take place. If you want to print them directly, you usually have to prefix them with a backslash (****) or enclose them in single quotes.

Redirection Special Characters

Character	Usage
\#>	Redirect output descriptor (Default **# = 1, stdout**)
<	Redirect input descriptor
>>	Append output
>&	Redirect **stdout** and **stderr** (equivalent to **.. > .. 2>&1**)

Compound Commands Special Characters

Character	Usage
|	Piping
()	Execute in a separate shell
&&	AND list
||	OR list
;	Separate commands

Expansion Special Characters

Character	Usage
{}	Lists
~	Usually means **$HOME**
$	Parameter substitution
‘	Back tick; used in expression evaluation (also **$()** syntax)
$(( ))	Arithmetic substitution
[]	Wildcard expressions, and conditionals

Escapes Special Characters

Character	Usage
****	End of line, escape sequence
’ ’	Take exactly as is
" "	Take as is, but do parameter expansion

Other Special Characters

Character	Usage
&	Redirection and putting task in background
#	Used for comments
***?**	Used in wildcard expansion
!	Used in history expansion

Note there are three different quoting mechanisms listed above:

- **** (as in **\|**; try **echo |** vs **echo \|**)
- single quotes: preserves literal value
- double quotes: same except for **$**, **‘**, and **** .

Note you can get a literal quote character by using **\’** or **\"**.

Try:

```
1  $ echo $HOME
2  $ echo \$HOME
3  $ echo ’$HOME’
4  $ echo "$HOME"
```

✓ Complete