Metacharacters

```
. ^ $ * + ? | ( ) { } [ ]
```

Escape these characters with a backslash (\) to match them literally.

Basic Expressions

Expression	Meaning
.	any character except new line
abc	"abc"
[a-e]	characters "a" to "e"
^abc	"abc" at the beginning of line
abc$	"abc" at the end of line
a*	"a" zero or more times
a+	"a" one or more times
a?	"a" (optional) one or more times
a{3}	"a" exactly three times
a{2,4}	"a" two to four times

Don't write [a-Z] or [A-z]!

Character Classes

Expression	Meaning
\d	number (0-9)
\w	alphanumeric (a-z, A-Z, 0-9, _)
\s	whitespace
\D	no number
\W	no alphanumeric
\S	no whitespace
[abc]	"a" or "b" or "c"
[^abc]	not "a" or "b" or "c"

Groups

Expression	Meaning
(abc)	group "abc"
a|b	"a" or "b"
(ab|cd)	"ab" or "cd"
(?:abc)	group without capturing

Extended Features

Expression	Meaning
(?=abc)	Lookahead: followed by "abc"
(?!abc)	Negative Lookahead: not followed by "abc"
(?<=abc)	Lookbehind: after "abc"
(?<!abc)	Negative Lookbehind: not after "abc"

Examples

Input: The quick brown fox jumps over the lazy dog.

Expression	Result
fox	The quick brown **fox** jumps over the lazy dog.
^The	**The** quick brown fox jumps over the lazy dog.
dog.$	The quick brown fox jumps over the lazy **dog.**
a*	The quick brown fox jumps over the l**a**zy dog.
over.*	The quick brown fox jumps **over the lazy dog.**
\.	The quick brown fox jumps over the lazy dog**.**
\s	The**·**quick**·**brown**·**fox**·**jumps**·**over**·**the**·**lazy**·**dog.
o(?=x)	The quick brown f**o**x jumps over the lazy dog.