

## Unix Shell Family Essential Metacharacters

### Wild Card (globbing) metacharacters try to match files

<b>?</b>	any single character
<b>*</b>	zero or more occurrences of any character
<b>[set-of-characters]</b>	any single character in the <i>set-of-characters</i>
<b>[!set-of-characters]</b>	any single character <b>not</b> in the <i>set-of-characters</i>

### Quoting and Grouping

<b>\any-character</b>	<i>any-character</i> as a literal (not meta)
<b>'any-characters'</b>	<i>any-characters</i> as literal text
<b>"most-characters"</b>	<i>most-characters</i> as literal text, but: "Double quotes" don't suppress <i>\$Variable</i> , <i>`Embedding`</i> or <i>\$(Nesting)</i> Quoted expressions will be parsed as one <b>word</b> , i.e. as one token

### Command Embedding and Nesting

<b>`shell-command`</b>	replaced by output of embedded <i>sub-command</i> ( <i>old syntax</i> )
<b>\$(shell-command)</b>	replaced by output of nested <i>sub-command</i> ( <i>new syntax</i> )

### Variables

<b>name=word</b>	creates variable <i>name</i> with value <i>word</i> ( <i>local to shell</i> )
<b>export name=word</b>	creates environment variable <i>name</i> with value <i>word</i> ( <i>passed to new processes</i> )
<b>\$name</b> or <b>\${name}</b>	replaced by value of variable <i>name</i> or nothing Expand variables inside double quotes to avoid surprises!

### Command I/O Redirection

<b>&lt;file-name</b>	standard input comes from <i>file-name</i>
<b>&gt;file-name</b>	standard output goes to <i>file-name</i> , overwriting it
<b>&gt;&gt;file-name</b>	standard output goes to <i>file-name</i> , appending to it

### Sequencing Metacharacters

<b>command&amp;</b>	runs <i>command</i> in the <i>background</i> for parallel processing
<b>command<sub>1</sub> &amp;&amp; command<sub>2</sub></b>	<i>and then</i> if <i>command<sub>1</sub></i> succeeds, also runs <i>command<sub>2</sub></i>
<b>command<sub>1</sub>    command<sub>2</sub></b>	<i>or else</i> if <i>command<sub>1</sub></i> fails, runs alternative <i>command<sub>2</sub></i>
<b>{ command; ... }</b>	grouped sequence of commands, use <b>;</b> or <i>newline</i>
<b>! command</b>	succeeds when <i>command</i> fails and vice versa