

Exam 1 Reference Sheet

Shell: Some of the tests that can appear in a `[ ]` or `[[ ]]` test command in a bash script:

- string comparisons: `=`, `!=`
- numeric comparisons: `-eq`, `-ne`, `-gt`, `-ge`, `-lt`, `-le`
- `-d directory_path` test for directory
- `-f file_path` test whether a regular file exists with at this path

Predefined Shell variables

<code>\$#</code>	Number of arguments
<code>\$?</code>	Last command result
<code>\$@</code> or <code>\$*</code>	all arguments
<code>\$0</code> , <code>\$1</code> , ...	specific arguments
<code>shift</code>	discard first argument

Shell Script syntax

<code>#! /path/to/program</code>	Execute this file with the given interpreter
<code># comment</code>	Comment
<code>if TEST_CONDITION; then</code> <code># body of conditional</code> <code>fi</code>	Conditional code block
<code>while TEST_CONDITION; do</code> <code># loop body</code> <code>done</code>	While loop in shell script
<code>for VAR in LIST; do</code> <code># loop body</code> <code>done</code>	For loop in shell script
<code>while read LINE_VAR; do</code> <code># loop body</code> <code>done < INPUT_FILE</code>	Use <code>INPUT_FILE</code> as an input to the while loop, and do something with each line.

Regular expressions

<code>.</code>	Match any character
<code>/^\$/</code>	Match the start of a line or the end, respectively
<code>/[a-zA-Z]/</code>	Match all letters, case insensitive
<code>/(abc)*/</code> <code>/(abc)+/</code> <code>/(abc)?/</code>	Matches "abc": 0 or more times, 1 or more times, 0 or 1 times
<code>(ab cd)</code>	Matches "ab" or "cd"
<code>/[0-9]/</code>	Match all numbers

Shell Commands

<code>cd foo</code>	Move from the working directory into a child directory named foo
<code>ls -al</code>	List all the files/directories in the working directory, along with their permissions
<code>cd ..</code>	Move into the parent directory
<code>cd ../..</code>	Move into the grandparent directory
<code>pwd</code>	Print the absolute path of the working directory
<code>cd ~, cd, cd \$HOME</code>	Move to the home directory
<code>cp src dest</code>	Copy a file

Git commands

<code>git status</code>	View the status of your files in the working directory and staging area
<code>git clone URL [dir]</code>	Make a local copy of a remote Git repository for your own changes
<code>git add path_to_add</code>	Adds a file's changes/contents to the staging area
<code>git commit -m "message"</code>	Records a snapshot of the staging area
<code>git push</code>	Upload your local commits to the remote repository/server
<code>git pull</code>	Fetch from a remote repo and try to merge into the current branch