CS222 Operating Systems

Quiz Study Guide - Labs 1 to 3

Qassim University - College of Computer

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Quiz Format: 2 Questions (Linux + Windows CMD), each with 10 sub-tasks worth 0.25 marks = 5 marks total

Part 1: Windows CMD Commands

Note: CMD commands are NOT case-sensitive (dir = DIR = Dir)

1.1 System Information

Task	Command	Example
Display current date	`date`	`C:\>date`
Display current time	`time`	`C:\>time`
Display Windows version	`ver`	`C:\>ver`

1.2 Directory Operations

Task	Command	Example
Display current directory	`cd`	`C:\Users>cd` `C:\Users`
Create a directory	`mkdir name` `or: md name`	`C:\>mkdir project`
Change directory (enter)	`cd name`	`C:\>cd project`
Return to parent directory	`cd ..`	`C:\project>cd ..`
Display directory contents	`dir`	`C:\project>dir`
Display directory as tree	`tree`	`C:\>tree`
Remove empty directory	`rmdir name` `or: rd name`	`C:\>rmdir project`

1.3 File Operations

Task	Command	Example
Create file + write text	`echo text > file.txt`	`echo Hello > report.txt`
Append text to file	`echo text >> file.txt`	`echo World >> report.txt`
Display file contents	`type file.txt`	`type report.txt`
Rename a file	`ren old.txt new.txt`	`ren report.txt summary.txt`
Copy a file	`copy src.txt dst.txt`	`copy file1.txt backup.txt`
Copy file to folder	`copy file.txt folder\`	`copy info.txt Backup\`
Delete a file	`del file.txt`	`del summary.txt`

1.4 Search / Find Commands

Task	Command	Example
Find lines with a word	`find "word" file.txt`	`find "Lab" summary.txt`
Count lines with a word	`find /c "word" file.txt`	`find /c "Lab" summary.txt`
Find ignoring case	`find /i "word" file.txt`	`find /i "system" file.txt`
Display lines NOT matching	`find /v "word" file.txt`	`find /v "test" file.txt`

1.5 Other Important Commands

Task	Command
Clear the screen	`cls`
Get help for a command	`command /?  (e.g., dir /?)`
. means	`Current directory`
.. means	`Parent directory`

TIP: In CMD, "find" needs the search text in DOUBLE QUOTES: find "word" file.txt

Part 2: Linux (Ubuntu) Commands

Note: Linux commands ARE case-sensitive (ls != LS != Ls)

2.1 System Information

Task	Command	Example Output
Display current date & time	`date`	`Sun Sep 30 16:32:18 UTC 2018`
Display system uptime	`uptime`	`16:48:15 up 16 min, 0 users...`
Show calendar	`cal`	`(shows current month)`
Display current directory	`pwd`	`/home/user`

2.2 Directory Operations

Task	Command	Example
List files in directory	`ls`	`$ ls`
List files (detailed)	`ls -l`	`$ ls -l`
Create a directory	`mkdir name`	`$ mkdir TestLab`
Enter a directory	`cd name`	`$ cd TestLab`
Return to parent dir	`cd ..`	`$ cd ..`
Go to home directory	`cd`	`$ cd`
Remove empty directory	`rmdir name`	`$ rmdir TestLab`

2.3 File Operations

Task	Command	Example
Create empty file	`touch file.txt`	`$ touch file1.txt`
Write text to file (overwrite)	`echo "text" > file.txt`	`$ echo "Linux Commands" > file1.txt`
Append text to file	`echo "text" >> file.txt`	`$ echo "Practice Lab" >> file1.txt`
Display file contents	`cat file.txt`	`$ cat file1.txt`
Copy a file	`cp src.txt dst.txt`	`$ cp file1.txt file2.txt`
Rename / move a file	`mv old.txt new.txt`	`$ mv data.txt info.txt`
Delete a file	`rm file.txt`	`$ rm file2.txt`
Display file type	`file file.txt`	`$ file file1.txt`

2.4 Search & Help Commands

Task	Command	Example
Search for text in file	`grep "word" file.txt`	`$ grep "Lab" file1.txt`
Count matching lines	`grep -c "word" file.txt`	`$ grep -c "Lab" file1.txt`
Search ignoring case	`grep -i "word" file.txt`	`$ grep -i "system" file.txt`
Locate / find a file	`find -name "file.txt"`	`$ find -name "report.txt"`
Display manual page	`man command`	`$ man cp`
Clear screen	`clear`	`$ clear`

TIP: In Linux, > overwrites and >> appends. echo "Hello" > f.txt (new), echo "World" >> f.txt (add)

2.5 Important Symbols

Symbol	Meaning
`.`	Current directory
`..`	Parent directory
`~`	Home directory
`>`	Redirect output (overwrite)
`>>`	Redirect output (append)

Part 3: Linux vs CMD - Side by Side

Task	Linux Command	Windows CMD
Show date	`date`	`date`
Show time	`date`	`time`
System uptime	`uptime`	`(not in quiz)`
OS version	`uname`	`ver`
Current directory	`pwd`	`cd (no args)`
List files	`ls`	`dir`
List files (detailed)	`ls -l`	`dir`
Create directory	`mkdir name`	`mkdir name`
Enter directory	`cd name`	`cd name`
Go to parent	`cd ..`	`cd ..`
Create empty file	`touch file.txt`	`(use echo)`
Write text to file	`echo "text" > f.txt`	`echo text > f.txt`
Append text	`echo "text" >> f.txt`	`echo text >> f.txt`
View file content	`cat file.txt`	`type file.txt`
Copy file	`cp src dst`	`copy src dst`
Rename file	`mv old new`	`ren old new`
Delete file	`rm file.txt`	`del file.txt`
Find text in file	`grep "word" file`	`find "word" file`
Count matching lines	`grep -c "word" file`	`find /c "word" file`
Ignore case search	`grep -i "word" file`	`find /i "word" file`
File type	`file filename`	`(not in quiz)`
Help / Manual	`man command`	`command /?`
Clear screen	`clear`	`cls`
Directory tree	`tree`	`tree`
Find / locate file	`find -name "f.txt"`	`(not in quiz)`

Part 4: Quiz Pattern Analysis

From analyzing 5+ quiz samples, these tasks appear in almost EVERY quiz:

#	Task Pattern (appears in almost every quiz)	Frequency
1	Display date / time / version / uptime	**ALWAYS**
2	Create a directory	**ALWAYS**
3	Enter (cd into) the directory	**ALWAYS**
4	Create a file and write text inside it	**ALWAYS**
5	Display file contents (cat / type)	**VERY HIGH**
6	Rename a file (mv / ren)	**VERY HIGH**
7	Copy a file (cp / copy)	**VERY HIGH**
8	Delete a file (rm / del)	**HIGH**
9	Find/search for a word in a file (grep / find)	**VERY HIGH**
10	Return to parent / show current dir / help	**HIGH**
11	Display file type (file command - Linux)	**HIGH**
12	Display manual/help page (man / /?)	**HIGH**
13	Clear screen / tree	**MEDIUM**

KEY INSIGHT: The quiz always follows the same workflow pattern: show system info > create dir > enter dir > create file with text > manipulate file (rename/copy/delete/search) > navigate back or show info.

Part 5: Practice Quizzes

Practice Quiz A - Linux (2.5 Marks)

#	Task	Your Answer
1	Display the current date and time	
2	Display how long the system has been running	
3	Create a directory called MyProject	
4	Enter the MyProject directory	
5	Create a file called notes.txt	
6	Write "Operating Systems Lab" into notes.txt	
7	Display the contents of notes.txt	
8	Copy notes.txt to backup.txt	
9	Display the type of notes.txt	
10	Display the manual page for the cp command	

Practice Quiz A - Windows CMD (2.5 Marks)

#	Task	Your Answer
1	Display the current date	
2	Create a directory called Work	
3	Change the current directory to Work	
4	Create file data.txt and write "System Analysis" inside it	
5	Display the contents of data.txt	
6	Find lines containing "System" in data.txt	
7	Rename data.txt to report.txt	
8	Copy report.txt to backup.txt	
9	Delete report.txt	

10	Return to the parent directory	

Answer Key - Practice Quiz A

Linux Answers:

#	Task	Answer
1	Display date and time	`date`
2	System uptime	`uptime`
3	Create directory MyProject	`mkdir MyProject`
4	Enter MyProject	`cd MyProject`
5	Create notes.txt	`touch notes.txt`
6	Write text to notes.txt	`echo "Operating Systems Lab" > notes.txt`
7	Display contents	`cat notes.txt`
8	Copy to backup.txt	`cp notes.txt backup.txt`
9	File type	`file notes.txt`
10	Manual for cp	`man cp`

Windows CMD Answers:

#	Task	Answer
1	Display date	`date`
2	Create directory Work	`mkdir Work`
3	Change to Work	`cd Work`
4	Create file with text	`echo System Analysis > data.txt`
5	Display contents	`type data.txt`
6	Find "System"	`find "System" data.txt`
7	Rename data.txt	`ren data.txt report.txt`
8	Copy report.txt	`copy report.txt backup.txt`
9	Delete report.txt	`del report.txt`
10	Parent directory	`cd ..`

Practice Quiz B (Blank - Try Yourself!)

Linux (2.5 Marks - 0.25 each)

#	Task	Your Answer
1	Display the files in the current directory	
2	Create a directory called Docs	
3	Move into the Docs directory	
4	Create a file called report.txt	
5	Write "System Analysis" into report.txt	
6	Append "Practice Lab" to report.txt	
7	Display the contents of report.txt	
8	Copy report.txt to copy.txt	
9	Display the type of report.txt	
10	Display the manual/help page for the cp command	

Windows CMD (2.5 Marks - 0.25 each)

#	Task	Your Answer
1	Display the Windows version	
2	Create a directory called Docs	
3	Enter the Docs directory	
4	Create report.txt and write "System Analysis" inside	
5	Display the contents of report.txt	
6	Find lines containing "system" ignoring case	
7	Rename report.txt to final_report.txt	
8	Copy final_report.txt to copy.txt	
9	Display directory contents	
10	Type the command to clear the screen (do NOT execute)	

Answer Key - Practice Quiz B

	Linux Answer	CMD Answer
1	`ls`	`ver`
2	`mkdir Docs`	`mkdir Docs`
3	`cd Docs`	`cd Docs`
4	`touch report.txt`	`echo System Analysis > report.txt`
5	`echo "System Analysis" > report.txt`	`type report.txt`
6	`echo "Practice Lab" >> report.txt`	`find /i "system" report.txt`
7	`cat report.txt`	`ren report.txt final_report.txt`
8	`cp report.txt copy.txt`	`copy final_report.txt copy.txt`
9	`file report.txt`	`dir`
10	`man cp`	`cls`

Common Mistakes to Avoid

Mistake	Wrong	Correct
Using Linux cmd in Windows	`cat file.txt`	`type file.txt`
Using Windows cmd in Linux	`type file.txt`	`cat file.txt`
Forgetting quotes in find (CMD)	`find System file.txt`	`find "System" file.txt`
Using ren in Linux	`ren old.txt new.txt`	`mv old.txt new.txt`
Using mv in CMD	`mv old.txt new.txt`	`ren old.txt new.txt`
Using rm in CMD	`rm file.txt`	`del file.txt`
Using del in Linux	`del file.txt`	`rm file.txt`
Using cp in CMD	`cp file1 file2`	`copy file1 file2`
Using copy in Linux	`copy file1 file2`	`cp file1 file2`
Wrong case in Linux	`LS or Mkdir`	`ls or mkdir (lowercase!)`
grep vs find confusion	`find "word" file (Linux)`	`grep "word" file (Linux)`
pwd vs cd for current dir	`cd (Linux, shows nothing)`	`pwd (Linux, shows path)`
Forgetting > for file write	`echo text file.txt`	`echo text > file.txt`

REMEMBER: Linux uses grep, cp, mv, rm, cat, touch, pwd, clear, man | CMD uses find, copy, ren, del, type, echo >, cd, cls, /?

Good luck on your quiz, Moha!