Q1: How do you find all `.log` files in the `/var/log` directory that were modified more than 15 days ago, but exclude those files that are larger than 500MB?

find var/log -name "*.log" -mtime +15 ! size +500M

Q2: How can you search for all symbolic links in a directory and delete them using a single `find` command?
Find var/dorectory -type l -delete

Q3: Using `find`, how do you locate files in the `/home/user` directory that are owned by a user other than the current owner?

find home/user ! -user $(whoami)

Q4: How can you find all files in the `/etc` directory that contain the word "config" in their name and have write permission for others?

find /etc -name "config" -perm –o=w

Q5: How can you search for all lines in a file `/etc/passwd` that do not contain the word "bash"?
grep –v "bash" /etc/passwd

Q6: How do you search recursively through all files in a directory for a specific string, showing only the matching filenames and excluding binary files?

grep -rl --exclude-binary '*' "Search_string" /path/to/directory

Q7: How can you search for the word "error" in a file, displaying the surrounding 3 lines before and after each match?

grep -C 3 "error" filename

Q8: Using `grep`, how would you find all occurrences of the word "root" in `/etc/passwd` that start at the beginning of a line?
grep "^root" error.log

Q9: How can you create a compressed archive of the `/home/user` directory, excluding all `.mp4` files?

Q10: How would you extract only a specific file `file.txt` from a `.tar.gz` archive without extracting the entire archive?
tar -xzf archive.tar.gz file.txt

Q11: How can you append a file called `newfile.txt` to an existing `archive.tar.gz` without decompressing the archive?

Q12: How would you list the contents of a `.tar.gz` archive without extracting it?
tar -tzf archive.tar.gz

Q13: How can you list all currently running processes and then filter for processes that include the word "java", showing only the process ID and name?

ps aux | grep "java"

Q14: How can you display a list of all files in `/var/log`, then filter for files containing the word "error" using both `ls` and `grep` in a pipeline?

ls /var/log | grep "error"

Q15: How do you count the number of lines in a file that contain the word "failed" using `grep` and `wc`?

grep "failed" filename | wc -l

Q16: How can you display the last 20 lines of a log file and filter the lines that contain the word "critical" using a combination of `tail` and `grep`?

tail -n 20 logfile.log | grep "critical"

Q17: How do you display the disk usage of all files and directories in `/home/user` in human-readable format, sorted by size in descending order?

du -h /home/user | sort -hr

Q18: How can you display the total disk usage of the `/var` directory but exclude the subdirectory `/var/log`?

du -sh /var --exclude=/var/log

Q19: How can you use `du` to find the disk usage of files larger than 100MB in a directory?

Q20: How do you display the disk usage of the 10 largest directories in the `/usr` directory using `du`?

du -h /home/user | sort -hr | head -n 10