LAB TASK

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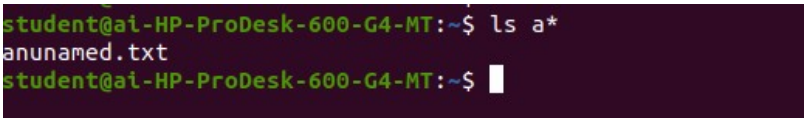
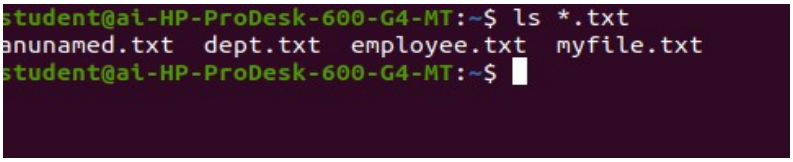
Question 1:
List all files in the current directory that start with the letter a.

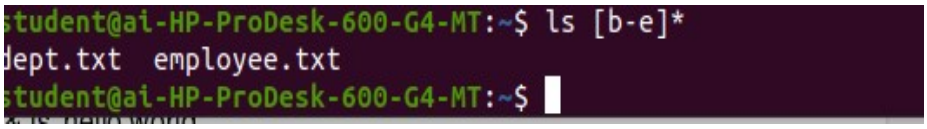


Question 2:
List all files in the current directory with a .txt extension.



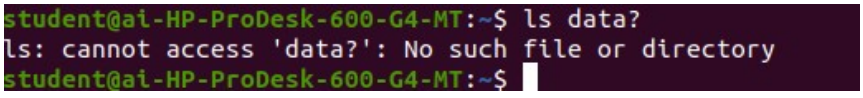
Question 3:
Find all files in the current directory whose names have exactly five characters.

Question 4:
List files in the current directory that start with any letter between b and e.

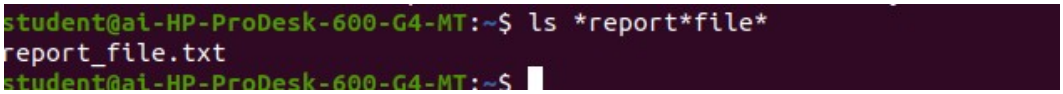


Question 5:
List files in the current directory ending with .log, where the second character is a number (e.g., a1.log).

Question 6:
List all files in the current directory whose names start with data followed by a single character (e.g., data1, dataA).



Question 7:
Find all files in the current directory whose names contain both file and report in any order.



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```
student@ai-HP-ProDesk-600-G4-MT:~$ ls *file*report*
file_report.txt
student@ai-HP-ProDesk-600-G4-MT:~$
```

Question 8:
Create a file with the name hello world and use quoting to list it.

```
student@ai-HP-ProDesk-600-G4-MT:~$ touch 'hello world' && ls 'hello world'
'hello world'
student@ai-HP-ProDesk-600-G4-MT:~$
```

Question 9:
Use quoting to echo the string I love $HOME, first interpreting $HOME and then treating it as literal text.

```
student@ai-HP-ProDesk-600-G4-MT:~$ echo "I love $HOME"
I love /home/student
student@ai-HP-ProDesk-600-G4-MT:~$ echo 'I love $HOME'
I love $HOME
student@ai-HP-ProDesk-600-G4-MT:~$
```

Question 10:
Create a file named file\with\slashes and list it using backslashes.

```
student@ai-HP-ProDesk-600-G4-MT:~$ touch file\with\slashes && ls file\with\slashes
filewithslashes
student@ai-HP-ProDesk-600-G4-MT:~$
```

Question 11:
Use echo to print * as a literal character without it being expanded by the shell.

```
student@ai-HP-ProDesk-600-G4-MT:~$ echo '*'
*
student@ai-HP-ProDesk-600-G4-MT:~$
```

Question 12:
Write a command to echo the string Today is "Monday" using proper quoting.

```
student@ai-HP-ProDesk-600-G4-MT:~$ echo 'Today is "MOnday"'
Today is "MOnday"
student@ai-HP-ProDesk-600-G4-MT:~$
```

Question 13:
Create a file named data'sheet using quoting.

Question 14:r
Create a text file named output.txt and redirect the output of ls into it.

```
student@ai-HP-ProDesk-600-G4-MT:~$ ls >output.txt
```

Question 15:
Append the output of date to the file created in the previous question.

```
student@ai-HP-ProDesk-600-G4-MT:~$ date >>output.txt
student@ai-HP-ProDesk-600-G4-MT:~$
```

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Question 16:
List all files in the current directory, sort them alphabetically, and display only the first 5 files.

```
student@ai-HP-ProDesk-600-G4-MT:~$ ls |sort|head -n 5
anunamed.txt
dept.txt
Desktop
Documents
Downloads
student@ai-HP-ProDesk-600-G4-MT:~$
```

Question 17:
Count the number of .txt files in the current directory using pipes.

```
student@ai-HP-ProDesk-600-G4-MT:~$ ls *.txt | wc -l
5
student@ai-HP-ProDesk-600-G4-MT:~$
```

Question 18:
Use command substitution to assign the current date to a variable and print it.

```
student@ai-HP-ProDesk-600-G4-MT:~$ curr=$(date) && echo $curr
Tuesday 28 January 2025 03:33:44 PM IST
student@ai-HP-ProDesk-600-G4-MT:~$
```

Question 19:
Create a file named backup_<date> where <date> is the current date.

```
student@ai-HP-ProDesk-600-G4-MT:~$ touch backup_$(date  +%Y-%m-%d)
student@ai-HP-ProDesk-600-G4-MT:~$
```

Question 20:
Run a command (e.g., sleep 10) in the background and check its status using jobs.

```
student@ai-HP-ProDesk-600-G4-MT:~$ sleep 10 & jobs
[1] 10536
[1]+  Running                 sleep 10 &
```

Question 21:
List all running background jobs and bring one to the foreground.

```
student@ai-HP-ProDesk-600-G4-MT:~$ jobs && fg%<job_number>
bash: syntax error near unexpected token `newline'
[1]+  Done                    sleep 10
```

Question 22:
List all files in a directory where the name contains at least one digit and ends with .sh.

```
student@ai-HP-ProDesk-600-G4-MT:~$ ls *[0-9]*.sh
ls: cannot access '*[0-9]*.sh': No such file or directory
student@ai-HP-ProDesk-600-G4-MT:~$
```

Question 23:
Find files where the first character is a, the second is not b, and the name ends in .log.

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```
student@ai-HP-ProDesk-600-G4-MT:~$ ls a[!b]*.log
ls: cannot access 'a[!b]*.log': No such file or directory
student@ai-HP-ProDesk-600-G4-MT:~$
```

Question 24:
Use && and || operators to list files only if a directory exists; otherwise, print an error message.

```
student@ai-HP-ProDesk-600-G4-MT:~/Downloads$ [ -d directory ] && ls || echo 'D
irectory does not exist'
Directory does not exist
student@ai-HP-ProDesk-600-G4-MT:~/Downloads$
```

Question 25:
Chain commands to create a file, write to it, and display its contents in one line.

```
student@ai-HP-ProDesk-600-G4-MT:~/Downloads$ touch file && echo 'content' >file && cat file
content
student@ai-HP-ProDesk-600-G4-MT:~/Downloads$
```

Question 26:
Use a pipe to filter files ending in .txt and redirect the output to filtered_files.txt.

```
student@ai-HP-ProDesk-600-G4-MT:~/Downloads$ ls *.txt | tee filtered_files.txt
ls: cannot access '*.txt': No such file or directory
student@ai-HP-ProDesk-600-G4-MT:~/Downloads$
```

Question 27:
Append the number of lines in filtered_files.txt to the end of the file.

```
student@ai-HP-ProDesk-600-G4-MT:~$ wc -l filtered_files.txt >>filtered_files.txt
student@ai-HP-ProDesk-600-G4-MT:~$
```

Question 28:
Create a file named *important? and list it without expanding the special characters.

```
student@ai-HP-ProDesk-600-G4-MT:~$ touch '*important? && ls \*important\?
> ^C
student@ai-HP-ProDesk-600-G4-MT:~$
```

Question 29:
Use quoting to delete a file named Hello[World].

```
student@ai-HP-ProDesk-600-G4-MT:~$ rm 'Hello[World]'
rm: cannot remove 'Hello[World]': No such file or directory
student@ai-HP-ProDesk-600-G4-MT:~$
```

Question 30:
List all files that start with test, have exactly two characters after it, and end with .txt (e.g., test12.txt, testAA.txt).

```
student@ai-HP-ProDesk-600-G4-MT:~$ ls test??.txt
ls: cannot access 'test??.txt': No such file or directory
student@ai-HP-ProDesk-600-G4-MT:~$
```

Question 31:
Find all files in the current directory that do not have the extension .log using wildcards.

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```
student@66:~$ ls *[^.log]
 1.sh                boxdemo.class   'data\sheet'          game.css      'hello world'   stack.java
 alias               boxdemo.java     datasheet            game.js       '*important?'   student.c
 backup_2025-01-28   box.java         filewithslashes      hello.class    output.txt     student.java
 Box.class          "data'sheet"      filtered_files.txt   hello.java     reportfile     test12.txt

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c  file.c  hello.c

anaconda3:
 bin              doc       info          licensing     pkgs        sbin    translations
 compiler_compat  envs      lib           man           plugins     share   var
 condabin         etc       libexec       mkspecs       qml         shell  'wekafiles (copy)'
 conda-meta       include   LICENSE.txt   phrasebooks   resources   ssl     x86_64-conda_cos6-linux-gnu

COP_290_Lab3:
get-pip.py  main.py    requirements.txt  test_seller_views.py  website
htmlcov     README.md  test_auth.py      test_user_views.py

Desktop:
422129  423134  423182  a1.log  ran3  unix

Documents:
 bdlab   eclipse-inst-jre-linux64   hadoop-2.10.2   sort  'week1 TDPL.odt'   xv6-public-master

Downloads:
 0.CNN
 1-16.hs
 1-17
 1-17.hi
 1-17.hs
 1-17.o
'1-18 (1).hs'
 1-18.hs
 aipl1.png
 App.java
 blender-3.1.2-linux-x64
```

```
Public:
snap  wekafiles

__pycache__:
queue.cpython-37.pyc  queue.cpython-38.pyc

SAMPLE:

snap:
dog  jupyter  snap-store  umbrello

Templates:

TRAIL:

Videos:

wekafiles:
native  packages  props  repCache  systemDialogs  weka.log  wekaMetaStore
student@66:~$
```

Question 32:
Create a file with the name hello$world using quoting, and write a command to list it without expanding $.

```
student@66:~$ touch 'hello$world' && ls hello\$world
'hello$world'
```

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Question 33:
Write a command to rename all files in the current directory with .txt extension to .bak extension in a single line.

```
student@66:~$ for file in *.txt; do mv "$file" "${file%.txt}.bak"; done
```

Question 34:
Combine quoting and command substitution to create a file whose name is the current date and time (e.g., 2025-01-28_10-30.txt).

```
student@66:~$ touch $(date +%Y-%m-%d_%H-%M).txt
```

Question 35:
Write a command that uses redirection to write the output of ls to a file, appends the current date and time to the same file, and then displays the contents of the file.

```
student@66:~$ ls > file && date >> file && cat file
1.sh
2025-01-28_16-19.txt
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ac.log
alias
anaconda3
b1.log
backup_2025-01-28
Box.class
boxdemo.class
boxdemo.java
box.java
COP_290_Lab3
data'sheet
data\sheet
datasheet
Desktop
Documents
Downloads
file
filewithslashes
filtered_files.bak
game.css
game.html
game.js
hadoop-2.10.2
hello$world
hello.class
hello.java
hello world
*important?
input
Music
new
OOPS
output.bak
Pictures
```

Question 36:
List files in the current directory that do not contain the letter e anywhere in their names.

Question 37:
Write a command to find and delete all files in a directory that have more than 10 characters in their name.

Question 38:
Using metacharacters and pipes, list all files in the current directory, display only the ones with .txt extension, and count the total number of these files.

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Question 39:
Create a file named important|file and use quoting or escaping to delete it without triggering errors.

Question 40:
Write a command to find all files with .txt or .log extensions and copy them to a directory named backup, ensuring the directory is created only if it does not exist.

Question 41:
Using wildcards, find all files that start and end with a number (e.g., 1data1, 4file7) in a directory.

Question 42:
Write a single command to replace all spaces in filenames in the current directory with underscores (_).

Question 43:
Create a chain of commands using && to check if a file exists, delete it if it does, and create a new file with the same name.

Question 44:
Write a command that redirects both stdout and stderr of a program (e.g., ls non_existent_file) into a single file.

Question 45:
Find all files with names starting with a lowercase letter and ending with .sh, and move them to a directory named scripts.

Question 46:
Use pipes and grep to list only the hidden files in the current directory (files starting with a .).

Question 47:
Create a file with the name *wild?card.txt and write a command to delete it without expanding the special characters.

Question 48:
Write a command to search for a string error in all .log files in a directory, count the number of matches, and save the count to a file named error_count.txt.

Question 49:
Find all files in a directory that contain the letter a in the third position of their name (e.g., __a__).

Question 50:
Using quoting and metacharacters, write a command that appends the output of ls to a file named summary_$(date +%Y%m%d).txt in a single line.

Question 51:
Write a command to find all files in the current directory and its subdirectories that:

- Start with the letter a,
- Have exactly 8 characters before the file extension,
- End with .txt or .log.
  The output should display the relative paths of these files.

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Question 52:
Create a directory structure with multiple nested folders and files using a single command (e.g., mkdir -p). Use wildcards in a find command to locate and list all files that:

- Start with a vowel,
- Contain at least two numbers,
- End with .sh.

Question 53:
Using metacharacters and wildcards, write a single command to:

- Find all files that do **not** have a .txt or .log extension,
- Exclude any files with a name containing temp or backup,
- Copy the remaining files into a new directory named filtered_files.

Question 54:
Write a single command to:

- Identify all files whose names have at least one uppercase letter, one lowercase letter, and one number.
- Append the full path of each matching file

Question 55:
You are given a text file data.txt with more than 100 lines. Write a single command to:

- Extract lines 20 to 30 from the file and save them to output.txt.
- Ensure the original file remains unchanged.

Question 56:
Given two files file1.txt and file2.txt, write a command to:

- Display the first 5 lines of file1.txt concatenated with the last 5 lines of file2.txt.
- Use head, tail, and cat in a pipeline.

Question 57:
You have two files, list1.txt and list2.txt, containing sorted lists of names. Write a command to:

- Find the common names in both files, the names unique to list1.txt, and the names unique to list2.txt.
- Display the result in three separate columns.

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Question 58:
Given two files, config_old.txt and config_new.txt, use diff to:

- Display only the lines that differ between the two files with their line numbers.
- Write a command to suppress all unchanged lines in the output.

Question 59:
You have a large log file named system.log. Write a single command to:

- Extract the last 50 lines of the file, sort them alphabetically, and display only the first 10 sorted lines.
-