Exercises working in the shell

Lab 1: Entering Commands and Options in the Shell

1. Open your terminal and type a simple command:
    - `ls`

      Observe the output.
2. Use an option with the same command:
    - `ls -l`
    - `ls -a`

      Compare the difference in output.
3. Combine multiple options:
    - `ls -la`
4. Practice with other simple commands:
    - `pwd` (print current directory)
    - `date` (check current system date/time)
    - `whoami` (check your username)

Lab 2: Exploring the `uname` Command

Objective: Use `uname` and its options to display system information.

1. Run the basic command:
    - `uname`

      Note the short output (kernel name).
2. Show detailed system information:
    - `uname -a`
3. Explore specific options:

- `uname -s` (kernel name)
- `uname -r` (kernel release)
- `uname -m` (machine hardware name)
- `uname -n` (network node hostname)

4. Write down the difference between `uname -a` and individual options.

Lab 3: Working with the exec Command

Objective: Learn how `exec` works and understand its effect on the shell session.

1. Understand the basics:
   - `exec ls`
     Notice that after execution, your shell session closes because `exec` replaces the current shell with the command.
2. Compare behavior:
   - Run `ls` normally.
   - Run `exec ls`.
     Observe the difference.
3. Use `exec` to replace the shell with another shell:
   - `exec ksh`
     (if ksh is not installed…run: **`sudo dnf install -y ksh`**
   - After running, check with `echo $0` to confirm.
4. Redirect output using `exec`:
   - `exec > output.txt`
   - Run a few commands like `pwd`, `date`, `whoami`.
   - Exit the shell and login again. Check the contents of `output.txt` using the **`cat`** command.

Lab 4: Combining Commands and Options

1. Use `uname` with other commands:
    - `uname -r && date`
    - `uname -n; whoami`
2. Redirect `uname` output to a file:
    - `uname -a > sysinfo.txt`
    - `cat sysinfo.txt`