**Shell Script Automation: Basic Tasks**

Here are beginner-friendly tasks to help students understand and practice shell script automation:  
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**Task 1: Create a Backup Script**

**Objective:**Write a shell script to back up a directory.  
**Requirements:**

Prompt the user to enter a source directory and a destination directory.

Copy all files from the source directory to the destination directory.

Add a timestamp to the backup folder's name (e.g., backup\_YYYY-MM-DD).

**Hint:**

Use the cpcommand to copy files.

Use the datecommand to generate a timestamp.

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**Task 2: File Organizer**

**Objective:**Automate file organization in a directory.  
**Requirements:**

Create subdirectories for file types (images, documents, scripts, etc.).

Move files into their respective directories based on their extensions:

**Hint:**

Use the mkdirand mvcommands.

Use casestatements or ifconditions to check file extensions.

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**Task 3: Disk Usage Monitor**

**Objective:**Create a script to monitor disk usage.  
**Requirements:**

Check the available disk space using the dfcommand.

If the disk space usage exceeds 80%, print a warning message.

Log the output to a file (e.g., disk\_usage.log).

**Hint:**

Use df -hto display disk usage in a human-readable format.

Parse the output using awkor grep.

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**Task 4: User Information Script**

**Objective:**Write a script to display system and user information.  
**Requirements:**

Print the current user's name.

Show the hostname of the machine.

Display the current date and time.

**Hint:**

Use commands like whoami, hostname, and date.

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**Task 5: Word Count Script**

**Objective:**Count words in a file.  
**Requirements:**

Ask the user to provide a file path.

Count the total number of words in the file using the wccommand.

Print the word count to the terminal.

**Hint:**

Use wc -wto count words in a file.

Include error handling if the file does not exist.

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**Task 6: Simple Calculator**

**Objective:**Create a calculator script.  
**Requirements:**

Prompt the user for two numbers and an operation (+, -, \*, /).

Perform the operation and display the result.

**Hint:**

Use readto accept user input.

Use expror $(( ))for arithmetic operations.

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**Task 7: Welcome Message Automation**

**Objective:**Display a personalized welcome message.  
**Requirements:**

Prompt the user for their name.

Display a message like: "Hello, [Name]! Welcome to Shell Scripting."

**Hint:**

Use echoand readto interact with the user.