

os24

Create a Bash script `file.sh` that performs the following tasks:

1. Takes a directory path as an argument.
2. Checks if the directory exists. If not, prints an error message and exits.
3. Lists all files in the directory with their details (name, size, and last modified date).
4. Counts the total number of files and directories in the specified directory and displays the count.
5. Develop the script in an Emacs Org-mode file that documents your development process. The final script should be in a code block that can be tangled to generate a source file `file.sh`, which could be run on the shell with the command `bash file.sh [directory-path]`.

Submit the Org-mode file.

Explanation:

- **Argument Check:** The script first checks if exactly one argument is passed. If not, it prints a usage message and exits.
- **Directory Existence Check:** It checks if the given argument is a directory. If it's not, an error is displayed, and the script exits.
- **Listing Files:** The script lists all files in the directory, showing their name, size, and last modified date using `basename`, `stat`, and `date`.
- **Counting Files and Directories:** `find` is used with `wc -l` to count the number of files and directories.

This script provides a practical application of bash scripting fundamentals and can be expanded with additional features like handling multiple directories, filtering specific file types, or customizing the output format.

```
#!/bin/bash

# Check if the directory path is provided
if [ "$#" -ne 1 ]; then
    echo "Usage: $0 <directory path>"
    exit 1
fi

# Check if the directory exists
if [ ! -d "$1" ]; then
    echo "Error: Directory not found."
    exit 1
fi

# List files with details
echo "Files in directory $1:"
for file in "$1"/*; do
    echo "$(basename "$file") - Size: $(stat -c %s "$file") bytes, Last Modified: $(date)"
done

# Count files and directories
num_files=$(find "$1" -type f | wc -l)
num_dirs=$(find "$1" -type d | wc -l)
echo "Total files: $num_files"
echo "Total directories: $num_dirs"
```

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