# Bash vs PowerShell Scripting Basics with Practical Examples

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| Concept | Bash (Linux) | PowerShell (Windows) |
| 1. Shebang / Header | #!/bin/bash Used at the top of a script file | No need, just `.ps1` extension (e.g., `script.ps1`) |
| 2. Print Output | echo "Hello" | Write-Host "Hello" Write-Output "Hello" |
| 3. Variables | name="Raj" echo $name | $name = "Raj" Write-Host $name |
| 4. User Input | read -p "Enter your name: " name | $name = Read-Host "Enter your name" |
| 5. Script Arguments | echo $1 → 1st arg is $1, all args $@ | param($name) or use $args[0] |
| 6. If Condition | if [ "$ans" == "fine" ]; then echo "ok"; fi | if ($ans -ieq "fine") { Write-Host "ok" } |
| 7. Case-insensitive check | if [[ "${ans,,}" == "fine" ]] | if ($ans -ieq "fine") |
| 8. For Loop | for file in \*; do echo $file; done | foreach ($file in Get-ChildItem) { Write-Host $file.Name } |
| 9. While Loop | i=1; while [ $i -le 5 ]; do echo $i; ((i++)); done | $i = 1; while ($i -le 5) { Write-Host $i; $i++ } |
| 10. Functions | function greet() { echo "Hi $1"; } greet Raj | function Greet { param($name); Write-Host "Hi $name" } Greet -name "Raj" |
| 11. Script Execution | chmod +x script.sh ./script.sh | ./script.ps1 (in PowerShell terminal) |

Practical Examples

## 🔹 Bash (Linux)

* 1. Print User Input

#!/bin/bash  
read -p "Enter your name: " name  
echo "Hi $name"

* 2. Loop through files

#!/bin/bash  
for file in \*; do  
 echo "File: $file"  
done

* 3. Conditional check

#!/bin/bash  
read -p "How are you? " ans  
if [[ "${ans,,}" == "fine" ]]; then  
 echo "Great!"  
else  
 echo "Take care!"  
fi

* 4. Function with argument

#!/bin/bash  
greet() {  
 echo "Hi $1"  
}  
greet Raj

## 🔹 PowerShell (Windows)

* 1. Print User Input

$name = Read-Host "Enter your name"  
Write-Host "Hi $name"

* 2. Loop through files

foreach ($file in Get-ChildItem) {  
 Write-Host "File: $($file.Name)"  
}

* 3. Conditional check

$ans = Read-Host "How are you?"  
if ($ans -ieq "fine") {  
 Write-Host "Great!"  
} else {  
 Write-Host "Take care!"  
}

* 4. Function with argument

function Greet {  
 param($name)  
 Write-Host "Hi $name"  
}  
Greet -name "Raj"