

## Shell Script Solutions

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### 1. Shell Script to Copy Files from One Folder to Another

```
#!/bin/sh
echo "Enter source folder:"
read source
echo "Enter destination folder:"
read destination
cp -r "$source"/* "$destination"
echo "Files copied successfully."
```

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### 2. Shell Script to Count Words, Characters, and Lines in a File

```
#!/bin/sh
echo "Enter the filename:"
read filename
if [ -f "$filename" ]; then
    echo "Words: $(wc -w < "$filename")"
    echo "Characters: $(wc -c < "$filename")"
    echo "Lines: $(wc -l < "$filename")"
else
    echo "File does not exist."
fi
```

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### 3. Shell Script to Describe Files in Different Formats

```
#!/bin/sh
echo "File details in long format:"
ls -l
echo "File details in human-readable size format:"
ls -lh
```

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### 4. Bash Script to Display First 10 Natural Numbers

```
#!/bin/bash
for i in {1..10}; do
    echo "$i"
```

done

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## 5. Bash Script to Display Fibonacci Series

```
#!/bin/bash
echo "Enter the number of terms:"
read n
a=0
b=1
echo "Fibonacci series:"
for (( i=0; i<n; i++ )); do
    echo -n "$a "
    fn=$((a + b))
    a=$b
    b=$fn
done
echo
```

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## 6. Bash Script to Check if a Number is Prime

```
#!/bin/bash
echo "Enter a number:"
read num
is_prime=1
for (( i=2; i*i<=num; i++ )); do
    if (( num % i == 0 )); then
        is_prime=0
        break
    fi
done
if (( is_prime == 1 )); then
    echo "$num is a prime number."
else
    echo "$num is not a prime number."
fi
```

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## 7. Shell Script to Find the Biggest of Three Numbers

```
#!/bin/sh
echo "Enter three numbers:"
```

```
read a b c
if [ "$a" -gt "$b" ] && [ "$a" -gt "$c" ]; then
    echo "$a is the largest."
elif [ "$b" -gt "$c" ]; then
    echo "$b is the largest."
else
    echo "$c is the largest."
fi
```

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## 8. Shell Script to Reverse a Given Number

```
#!/bin/sh
echo "Enter a number:"
read num
rev=0
while [ "$num" -gt 0 ]; do
    digit=$(( num % 10 ))
    rev=$(( rev * 10 + digit ))
    num=$(( num / 10 ))
done
echo "Reversed number: $rev"
```

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## 9. Shell Script to Find the Sum of Individual Digits

```
#!/bin/sh
echo "Enter a number:"
read num
sum=0
while [ "$num" -gt 0 ]; do
    digit=$(( num % 10 ))
    sum=$(( sum + digit ))
    num=$(( num / 10 ))
done
echo "Sum of digits: $sum"
```

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## 10. Shell Script to Display Users Currently Logged In

```
#!/bin/sh
echo "Currently logged-in users:"
who | awk '{print $1}' | sort | uniq
```

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## 11. Shell Script to Perform Arithmetic Operations

```
#!/bin/sh
echo "Enter two numbers:"
read a b
echo "Addition: $((a + b))"
echo "Subtraction: $((a - b))"
echo "Multiplication: $((a * b))"
echo "Division: $((a / b))"
```

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## 12. Shell Script to Copy Contents of One File to Another

```
#!/bin/sh
echo "Enter source file:"
read src
echo "Enter destination file:"
read dest
cp "$src" "$dest"
echo "Contents copied."
```

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## 13. Shell Script to Generate Multiplication Table

```
#!/bin/sh
echo "Enter a number:"
read num
echo "Enter the range:"
read range
i=1
while [ $i -le $range ]; do
    echo "$num x $i = $(( num * i ))"
    i=$(( i + 1 ))
done
```

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## 14. Shell Script to Count the Number of Files in a Directory

```
#!/bin/sh
echo "Enter directory path:"
read dir
```

```
if [ -d "$dir" ]; then
    echo "Number of files: $(ls -1 "$dir" | wc -l)"
else
    echo "Directory does not exist."
fi
```

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## **15. Script to Find Matched Characters, Words, and Lines in a File**

```
#!/bin/sh
echo "Enter filename:"
read file
grep -c "pattern" "$file"
```

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## **16. Script to Find the Number of Characters, Words, and Lines in a File**

```
#!/bin/sh
echo "Enter filename:"
read file
wc "$file"
```

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## **17. Script to Display Files Starting with a Particular Letter**

```
#!/bin/sh
echo "Enter the starting letter:"
read letter
ls "${letter}"*
```

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## **18. Replace the Nth Occurrence of a Pattern**

```
#!/bin/sh
echo "Enter file, pattern, and replacement:"
read file pattern replacement
sed "s/$pattern/$replacement/2" "$file"
```

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## **19. Shell Script to Convert Temperature (Celsius to Fahrenheit)**

```
#!/bin/sh
```

```
echo "Enter temperature in Celsius:"
read c
f=$(echo "scale=2; $c * 9/5 + 32" | bc)
echo "Temperature in Fahrenheit: $f"
```

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## 20. Shell Script to Compute the Power of a Number

```
#!/bin/sh
echo "Enter base and exponent:"
read base exp
result=1
for i in $(seq 1 $exp); do
    result=$(( result * base ))
done
echo "$base^$exp = $result"
```

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## 21. Shell Script to Check If a Year Is Leap Year

```
#!/bin/sh
echo "Enter a year:"
read year
if [ $(( year % 400 )) -eq 0 ] || ([ $(( year % 4 )) -eq 0 ] && [ $(( year % 100 )) -ne 0 ]); then
    echo "$year is a leap year."
else
    echo "$year is not a leap year."
fi
```

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## 22. Shell Script to Check if a Number is Even or Odd

```
#!/bin/sh
echo "Enter a number:"
read num
if [ $(( num % 2 )) -eq 0 ]; then
    echo "$num is even."
else
    echo "$num is odd."
fi
```

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## 23. When to Use Shell Scripts

- Automating repetitive tasks.
  - Managing system administration tasks.
  - File management and processing.
  - Writing custom workflows for applications.
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## 24. Location of Bash Program

which bash

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## 25. Find Current Shell

echo \$SHELL