

Bash Shell Scripting Cheat Sheet

1. Basic Commands

Display text

```
echo "Hello World"
```

Read input

```
echo -n "Enter your name: "  
read name
```

Use input

```
echo "Hello, $name!"
```

List files and directories

```
ls
```

Change directory

```
cd /path/to/directory
```

2. Variables

Define a variable

```
name="John"
```

Access a variable

```
echo $name
```

Arithmetic operations

```
a=10
```

```
b=5
```

```
sum=$((a + b))
```

```
echo "Sum: $sum"
```

String concatenation

```
str1="Hello"
```

```
str2="World"
```

```
echo "$str1 $str2"
```

3. Conditional Statements

If-Else

```
if [ "$a" -gt "$b" ]; then  
    echo "$a is greater than $b"  
else  
    echo "$b is greater than $a"  
fi
```

Check if a file exists

```
if [ -e "file.txt" ]; then  
    echo "File exists"  
else  
    echo "File doesn't exist"  
fi
```

4. Loops

For Loop

```
for i in {1..5}; do  
    echo "Number $i"  
done
```

While Loop

```
count=1
while [ $count -le 5 ]; do
    echo "Counter: $count"
    ((count++))
done
```

```
# Until Loop
count=1
until [ $count -gt 5 ]; do
    echo "Counter: $count"
    ((count++))
done
```

5. Functions

```
# Define a function
myFunction() {
    echo "Hello from the function!"
}
```

```
# Call the function
myFunction
```

6. File Operations

```
# Create a file
touch file.txt
```

```
# Write to a file
echo "This is a file" > file.txt
```

```
# Append to a file
echo "Additional line" >> file.txt
```

```
# Read from a file
cat file.txt
```

```
# Remove a file
rm file.txt
```

7. Permissions

```
# Change file permissions
chmod +x script.sh
```

```
# Change file owner
chown user:group file.txt
```

8. Special Variables

```
# Script Name
echo $0
```

```
# All Arguments
echo $@
```

```
# Number of Arguments
echo $#
```

```
# Exit Status of Last Command
echo $?
```

```
# Process ID
echo $$
```

```
# User ID
echo $USER

## 9. Pipe and Redirect

# Pipe output to another command
echo "Hello" | tr 'a-z' 'A-Z'

# Redirect output to a file
echo "Hello World" > output.txt

# Append output to a file
echo "New Line" >> output.txt

# Redirect error output
ls /nonexistent_folder 2> error.log

## 10. Comment

# Single-line comment
# This is a comment

# Multi-line comment
: '
This is a multi-line comment.
It can span multiple lines.
'
```