Shell Scripting: A shell script is a computer program designed to be run by the Unix shell, a command-line interpreter. The various dialects of shell scripts are considered to be scripting languages. Typical operations performed by shell scripts include file manipulation, program execution, and printing text. A script which sets up the environment, runs the program, and does any necessary cleanup, logging, etc. is called a wrapper.

#!/bin/bash

cat /etc/shells - show the shell names

which bash - location of the bash

ls /mnt/ - Lists all files and directories within the /mnt directory, typically used for mounted drives or filesystems.

cd /mnt/drivename – Changes the current directory to /mnt/drivename, where drivename is a specific mounted drive or directory within /mnt.

touch filename – Creates an empty file named filename in the current directory if it doesn’t exist. If it does exist, it updates the file’s modification timestamp.

nano filename – Opens the file filename in the nano text editor, allowing you to view or edit its contents.

cat filename – Displays the contents of filename directly in the terminal.

* **System Variables:**

echo $BASH - shell name

echo $BASH\_VERSION - bash version

echo $HOME - home directory

echo $PWD - present working directory

Arithmetic:

|  |  |
| --- | --- |
|  |  |
| # Addition  let a=5+4  echo $a  let "a = 5 + 4"  echo $a  let a++  echo $a  let "a = 4 \* 5"  echo $a | # Addition  expr 10 + 5 # Output: 15  # Subtraction  expr 10 - 5 # Output: 5  # Multiplication (note the backslash before \*)  expr 10 \\* 5 # Output: 50  # Division  expr 10 / 2 # Output: 5  # Modulus (remainder of division)  expr 10 % 3 # Output: 1 |

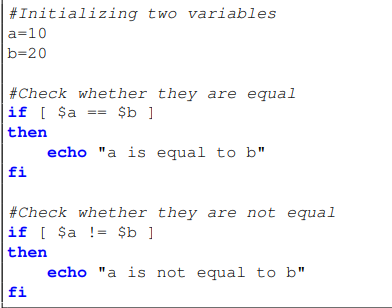
Double Parentheses:

|  |
| --- |
| a=$(( 4 + 5 ))  echo $a  a=$((3+5))  echo $a  b=$(( a + 3 ))  echo $b  b=$(( $a + 4 ))  echo $b  (( b++ ))  echo $b  (( b += 3 ))  echo $b  a=$(( 4 \* 5 ))  echo $a |

|  |  |
| --- | --- |
| **Addition** | **Subtraction** |
| echo "first number: "  first number:  read a  echo "second number: "  second number:  read b  c=$((a+b))  echo "Addition: $c" | echo "first number: "  first number:  read a  echo "second number: "  second number:  read b  c=$((a-b))  echo "Subtraction: $c" |
|
|
|

|  |  |
| --- | --- |
| **Multiplication** | **Subtraction** |
| echo "first number: "  first number:  read a  echo "second number: "  second number:  read b  c=$((a\*b))  echo "Multiplication: $c" | echo "first number: "  first number:  read a  echo "second number: "  second number:  read b  c=$((a/b))  echo "Division: $c" |
|
|
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Conditional Statements:



A screenshot of a computer

Description automatically generated

A computer code with colorful text

Description automatically generated