

LP - Assignment 9 (Linux Programming)

Submitted By

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21. Write a shell script using if...else to check if a number is even or odd.

Script:#!/bin/bashread -p "Enter number: " nif ((n % 2 == 0)); then echo "Even"else echo "Odd"fi

22. Explain the difference between if and case statements in bash.

if is used for testing expressions (numeric, string comparisons, command exit status). case is used for pattern matching against a single value and is cleaner for multiple alternatives.Example: case \$var in 1) ... ;; [a-z]*) ... ;; esac

23. Write a script to find the largest of three numbers entered by the user.

Script:#!/bin/bashread -p "Enter a: " aread -p "Enter b: " bread -p "Enter c: " cmax=\$aif ((b > max)); then max=\$b;fiif ((c > max)); then max=\$c; fiecho "Largest = \$max"

24. How do you use a for loop to traverse an array in bash? Give an example. The array is defined as arr=(123, "Abs", -2.3, 'A', 23.56, 0).

Define correctly (no commas) and loop:arr=(123 "Abs" -2.3 A 23.56 0)for item in "\${arr[@]}"; do echo "\$item"done

25. Write a shell script to loop through all files in the current directory and display their names.

Script:#!/bin/bashfor f in *; do if [-f "\$f"]; then echo "\$f" fidone

26. What is the difference between while and until loops in bash?

while runs while a condition is true. until runs until a condition becomes true (i.e., it runs while the condition is false).

27. Write a countdown timer script using a while loop.

Script:#!/bin/bashread -p "Enter seconds: " twhile ((t > 0)); do echo "\$t" sleep 1 t=\$((t - 1))doneecho "Time's up!"

28. How do you use break and continue statements in loops? Give examples.

break exits the loop immediately. continue skips to the next iteration.Example:for i in {1..5}; do if [\$i -eq 3]; then continue # skip printing 3 fi if [\$i -eq 4]; then break # stop loop when i==4 fi echo \$idone

29. Write a script to check if a file exists or not using the if and else loop.

Script:#!/bin/bashread -p "Enter filename: " f[-e "\$f"]; then echo "File exists"else echo "File does not exist"fi

30. Write a script to calculate factorial of a number using for loop.

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Script:#!/bin/bashread -p "Enter n: " nfact=1for (( i=1; i<=n; i++ )); do fact=$((fact * i))doneecho "Factorial of $n = $fact"
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