

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/bash
read -p "Enter number: " n
if ((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/bash
read -p "Enter a: " a
read -p "Enter b: " b
read -p "Enter c: " c
max=\$a
if ((b > max)); then max=\$b;
elif ((c > max)); then max=\$c; fi
echo "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/bash
for f in *; do
 if [-f "\$f"]; then
 echo "\$f"
 fi
done

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/bash
read -p "Enter seconds: " t
while ((t > 0)); do
 echo "\$t"
 sleep 1
 t=\$((t - 1))
done
echo "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
 fi
 if [\$i -eq 4]; then
 break
 fi
 echo \$i
done

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

Script:#!/bin/bash
read -p "Enter filename: " f
if [-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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