**Linux Programming: Assignment-9**

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

Answer:

read n

if (( n % 2 == 0 )); then

echo "Even"

else

echo "Odd"

fi

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

Answer:

if: Used for conditional statements with multiple conditions.

case: Used for matching a value against multiple patterns.

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

Answer:

read a b c

if (( a > b && a > c )); then

echo $a

elif (( b > c )); then

echo $b

else

echo $c

fi

**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).**

Answer:

arr=(1 2 3 "Abs" -2.3)

for i in "${arr[@]}"; do

echo $i

done

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

Answer:

for file in \*; do

echo $file

done

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

Answer:  
while: Runs as long as the condition is true.

until: Runs until the condition becomes true.

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

Answer:

i=10

while (( i > 0 )); do

echo $i

sleep 1

((i--))

done

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

Answer:

break: Exits the loop.

continue: Skips to the next iteration.

bash

for i in {1..5}; do

if (( i == 3 )); then

continue

fi

echo $i

done

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

Answer:

if [ -f file.txt ]; then

echo "File exists"

else

echo "File doesn't exist"

fi

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

Answer:

read n

fact=1

for (( i=1; i<=n; i++ )); do

fact=$((fact \* i))

done

echo $fact