**Linux Programming: Assignment-8**

**11. What is a user-defined function in shell scripting? Explain with an example.**

Answer:

Block of code that performs a specific task, reusable.

Example:

bash

greet() {

echo "Hello, $1!"

}

greet John

**12. Write a bash script with a function that multiply two integer numbers.**

Answer:

multiply() {

echo $(( $1 \* $2 ))

}

multiply 2 3

**13. Explain how arrays (1D, 2D, and 3D) are declared in bash scripting.**

Answer:

1D: array = (1 2 3)

2D and 3D are not used

**14. Write a shell script to display elements of an array.**

Answer:

array=(1 2 3)

echo ${array[@]}

**15. What is the purpose of cron in Linux?**

Answer:

run automatically at specified times or intervals.

**16. Write a cron job to run a backup script every day at midnight.**

Answer:

0 0 \* \* \* /path/to/backup/script.sh

**17. How do you schedule a one-time job using at command?**

Answer:

at midnight

/path/to/script.sh

**18. Write a script to display disk usage using df and du.**

Answer:

df -h ( disk space)

du -h ( directory size)

**19. How can you log the output of a script using the tee command?**

Answer:

./script.sh | tee log.txt

**20. Explain with an example how shell scripting can automate system administration tasks.**

Answer:

#!/bin/bash

tar -czf backup.tar.gz /path/to/data