**Shell Scripting Assignment**

1. write a script to check if the given string is a file or a directory or a link or if it doesn’t exist.

Ans. #!/bin/bash

check\_path() {

if [ -e "$1" ]; then

if [ -f "$1" ]; then

echo "'$1' is a file."

elif [ -d "$1" ]; then

echo "'$1' is a directory."

elif [ -L "$1" ]; then

echo "'$1' is a symbolic link."

else

echo "'$1' exists, but it's neither a regular file, directory, nor a symbolic link."

fi

else

echo "'$1' does not exist."

fi

}

# Input:-

read -p "Enter the path to check: " path\_to\_check

check\_path "$path\_to\_check"

2. Write a script to find the number of characters in each line of a file.

Ans. #!/bin/bash

echo “Enter the filename”

read filed

c=’cat $file | wc –c’

Echo Number of characters in $file is $c

3. Write a script to display file names if they contain the pattern and display the respective message whether the file contains a pattern or not.

Ans.

#!/bin/bash

echo "Enter file pattern to search for:"

read pattern

for file in \*

do

if grep -q "$pattern" "$file"; then

echo "$file contains the pattern."

else

echo "$file does not contain the pattern."

fi

done

4. Write a script to find the sum of elements in an array

Ans.

#!/bin/bash

# Declare the array

arr=(1 2 3 4 5)

# Set a variable to store the sum

sum=0

# Loop through the array and add each element to the sum

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

do

sum=$((sum + i))

done

# Print the sum

echo "The sum of the array elements is: $sum"

5. Write a script to monitor the usage of the server memory, if the server memory reaches its threshold value (70%). It will send an email to the concerned person.

Ans.

#!/bin/bash

# Set the threshold value for memory usage

threshold=70

# Get the current memory usage percentage

memory\_usage=$(free | awk '/Mem/{printf("%.2f"), $3/$2\*100}')

# Check if memory usage is above the threshold

if (( $(echo "$memory\_usage > $threshold" | bc -l) )); then

# Send an email to the concerned person

echo "Warning: Memory usage is above $threshold% on the server." | mail -s "Memory usage warning" [concerned\_person@example.com](mailto:concerned_person@example.com)

fi

**have you written any scripts?**

Yes, I have written many scripts and some of them are.

* Written a script to monitor the usage of the server memory, if the server memory reaches its threshold value (70%). It will send an email to the concerned person.
* Written a script to monitor the services, if the service stops automatically it has to send an email notification to the concerned person.
* written a script to clean up the old builds (we need to retain new (latest 10) builds and delete old builds)

6. Write a script to monitor the services, if the services stop automatically it has to send a mail notification to the concerned team

Ans.

#!/bin/bash

# Define the service to monitor

service\_name="my\_service"

# Define the email notification settings

[to="user@example.com](mailto:to=%22user@example.com)"

[from="monitoring@example.com](mailto:from=%22monitoring@example.com)"

subject="Service $service\_name stopped"

body="The $service\_name service has stopped. Please take action."

# Monitor the service indefinitely

while true; do

# Check if the service is running

if systemctl is-active --quiet $service\_name; then

echo "$service\_name is running"

else

# Service has stopped, send email notification

echo "$service\_name has stopped, sending notification"

echo "$body" | mail -s "$subject" -r "$from" "

7. Write a shell script to rename all text files into HTML files.

Ans.

#!/bin/bash

for file in \*.txt

do

mv "$file" "${file%.txt}.html"

Done

8. Write a script to display the content of the file in reverse.

Ans.

#!/bin/bash

if [ $# -ne 1 ]; then

echo "Usage: $0 FILENAME"

exit 1

fi

filename=$1

if [ ! -f $filename ]; then

echo "$filename does not exist"

exit 1

fi

tac $filename