**I22-0518 Umer Farooq**

This script is a basic server monitoring script written in Bash. It monitors disk usage, CPU usage, memory usage, and performs log rotation when necessary. Here's a breakdown of what each part of the script does:

**Function log\_message():**

* + This function logs messages to a file named server\_monitor.log along with a timestamp.

**Disk Usage Monitoring:**

* + It sets a threshold for disk usage (disk\_threshold) to 20%.
  + Retrieves the current disk usage of the server and compares it with the threshold.
  + If the disk usage exceeds the threshold, it logs a message indicating that disk usage exceeded the threshold.

**CPU Usage Monitoring:**

* + Sets a threshold for CPU usage (cpu\_threshold) to 30%.
  + Retrieves the current CPU usage of the server and calculates the used percentage.
  + Compares the CPU usage with the threshold.
  + If the CPU usage exceeds the threshold, it logs a message indicating that CPU usage exceeded the threshold.

**Memory Usage Monitoring:**

* + Sets a threshold for memory usage (memory\_threshold) to 70%.
  + Retrieves the current memory usage of the server and calculates the used percentage.
  + Compares the memory usage with the threshold.
  + If the memory usage exceeds the threshold, it logs a message indicating that used memory went above the threshold.

**Log Rotation:**

* + Checks the size of the log file (server\_monitor.log).
  + If the size exceeds a certain threshold (10 MB), it logs a message indicating that the log file size exceeded the maximum size.
  + Renames the current log file to server\_monitor.log.old.
  + Creates a new empty log file.
  + Logs a message indicating that the log file has been rotated.

**Reporting:**

* + At various points in the script, messages are printed to the console indicating the current state of disk, CPU, memory, and log file size.