**Task 1**

**Script to execute**

Seq -w 10 | sort -R | fmt

2. “Then store the string “Seq -w 10 | sort -R | fmt” in a library

3. Generate second string and also store in the library”

**Description**

“Seq –w 10”🡪 Writes will write the numbers 1-10

“sort –R” 🡪 will Will sort the numbers randomly

“fmt” 🡪 fmt is the format which will sort it horizontally

**Known limitations**

The well-known limitation or bugs in bash is the**;** “Remote code execution vulnerability” also known as “Shellshock attack” where an attacker/hacker can take control of one´s client and can remotely execute arbitrary code directly into one´s system.

**Task 2**

As a Network Specialist I currently use Solar winds, Cisco Network Assistant and Azure in monitoring the network performance of my Company. The main aim of our Network monitoring is to check and monitor all network and end devices that are connected to the network at a given time, track bandwidth usage and improve the network performance.

The most important metrics to monitor in this particular case will be the following;

**Inbound Traffic /Outbound** Traffic🡪 this will check the number of bytes sent from external endpoints to the server and also check the number of bytes response sent from the server to the endpoints. Here, one has to monitor the Data in and data out. The “data in” being the request payload going to the web server whereas the “Data out” is the response payload being sent to clients.

**Open Connections🡪** This will check the number of open connections on the network at a given time

**Average response time🡪** This is the amount of time the server takes to respond to all request sent to it

**New / closed Connections** 🡪

New connections will measure the number of client connections that were created successfully at a given time whereas closed connections will monitor those closed at a given time.

**Hardware utilization🡪**

As a network Administrator one has to check on the network to see if there are any bottlenecks. With

With 2 x 10Gbit and 64gb of Ram, one has to check if the network is exhausted or not and if it runs fully at 8Gb, 9Gb of 10gb. The bandwidth should also be monitored to see if it is slow. This can be performed by TTL to check if it takes long to ping an address.

**HTTP Server error rate🡪**This will monitor and count the amount of internal error received by users as they try to access the network or server.

The challenges mainly will be not being able to prioritize the one´s alerts and also not being able to review ones metrics regularly.