# Bash Scripting Homework

Write a simple bash script can be used as a port scanner in a given local network.

This script takes the network Id (and mask), the starting and stopping ports as an input parameters and detects the running servers and the open ports on that servers, and then save the results in a file.

For example:

#./MyScript.sh 192.168.100.0/24 10:20

1. If the network mask is given (**/24**), the script should detect the running servers in the given network (i.e. scan all the 254 IP address, from 192.168.100.1 to 192.168.100.254), and then scan the open ports in the range from 10 to 20 on each detected running server.
2. Input parameters are given in this main format: (192.168.100.0/24 10:20)
3. Other possible input formats:
   - #./MyScript.sh 192.168.100.0/28 :23 (scan all the 14 IP address **(from 192.168.100.1 to 192.168.100.14),** detect the running servers and then scan the open ports from 1 to 23 on each running server).
   - #./MyScript.sh 192.168.100.0/24 10: (scan all the 254 IP address, detect the running servers and then scan the open ports from 10 to 1024 on each running server).
   - #./MyScript.sh 192.168.100.20 10:45 (scan the open ports from 10 to 45 in the server that has the IP 192168.100.20).
4. Save the scanning result on a file.

Note:

You **CANNOT** use an implemented tool to perform the port scanning in your script (i.e. you can't use **nmap** or **nc** commands for example).