COMPUTING SUBJECT:	Firewalls
TYPE:	Assignment
IDENTIFICATION:	FIREWALLS
COPYRIGHT:	*Michael Claudius*
LEVEL:	Easy
TIME CONSUMPTION:	3 hours
EXTENT:	50 lines
OBJECTIVE:	Firewalls in theory and practice
PRECONDITIONS:	Computer Networking Ch. 8.7
COMMANDS:	

IDENTIFICATION: FIREWALLS/MC

The Mission
First step to secure a server and the data on it, is to set up a firewall, which can filter all the ingoing, outgoing net-traffic.
We will explore the basic concepts behind firewalls and have a look at some providers.

Useful links for this assignment

http://en.wikipedia.org/wiki/Firewall
http://en.wikipedia.org/wiki/Comparison_of_Firewalls
https://www.grc.com

1. Firewall types
Firewalls can be divided into 3 types and 3 categories based on different viewpoints.
Software or hardware type or both ☺
What is the difference?

2. Firewalls levels
Firewalls can operate on application level or network level.
What is the difference ?
Explain the words statefull and stateless firewalls.

3. Requirements
State some of the requirements that a firewall should have.

4. Firewall providers
There are many well known and massively tested firewalls:

- ZoneAlarm – www.zonelabs.com
- Sygate Personal Firewall – www.symantec.com
- Agnitum Outpost Firewall – www.agnitum.com
- Kerio Personal Firewall – www.kerio.com
- Comodo Personal Firewall – www.personalfirewall.comodo.com
- Windows Firewall – Included with Windows Standard Edition
- Windows Firewall www.microsoft.com/technet

Take a good look at the above mentioned. Any favourites ?
Windows Firewall ships free together with Windows.
Why has it first the last 3 years become popular?

5. Configuration of personal firewalls
Imagine you are to set up and configure firewalls on each of the following servers:

- Web Server (both HTTP & HTTPS)
- FTP Server

- Database server (MySQL, SQL-Server, Oracle)
- Mail Server (SMTP, POP3)
- Routing Server
- Entertainment Server. Games Interactive Video

State the access rules, the ports and the transport layer protocols needed for the mentioned servers.

6. Port scanning Optional for fast ones
The website for "SpineRite" https://www.grc.com offers the program "SieldsUp" to do a thorough test on the open, closed and stealth ports.
Check out the common ports and the service ports 0-1056 on your computer.
Any worrries ?