Ques- How firewall helps to secure PC?

Ans -

- A firewall is a software program that prevents unauthorized access to or from a private network. Firewalls are tools that can be used to enhance the security of computers connected to a network, such as LAN or the Internet. They are an integral part of a comprehensive security framework for your network. In this article, we will explain how firewalls protect your networks.
- Security is a topic on the minds of most everyone these days so understanding how to best protect your network is naturally a priority. Firewalls are designed as a barricade to keep out untrustworthy entities and traffic. A firewall can be a software or hardware-based system that serves as a round the clock traffic cop, prohibiting any traffic that you don't want inside your network. You define the traffic to be permitted into your network. Anything else simply has no access.
- Software-based firewalls are typically part of the operating system or a component of Anti-virus software. It is designed to block some applications that are potential threat to the user while allowing other approved applications unvetted access.
- Hardware-based firewalls serve as a physical blockade between the internet and the internal network. A true business-grade firewall should have the following services available to help prevent against malware, ransomware, and viruses: Anti-virus Gateway, Intrusion Prevention, Application Control, Web Reputation, WebBlocker, SpamBlocker, Network Discovery, Data Loss Prevention, and/or Advanced Threat Protection.
- Because businesses work with large volumes of sensitive data over their networks, a business-grade firewall is a must. Intrusion into your network leaves your critical business data available to outsiders/hackers. According to a study completed by the Computer Security Institute (CSI) in conjunction with the FBI, 52% of companies reported system penetration from external sources

Ques – If you are system administrator, what precautions/steps you will take to secure it?

Ans- There are numerous ways to protect and remove malware from our computers. No one method is enough to ensure your computer is secure. The more layers of defense, the harder for hackers to use your computer.

1. **Make sure your router has a decent firewall:** A firewall is a piece of software or hardware that (simply speaking) lets the good stuff in and the bad stuff out. Most internet service providers offer a free router and modem when you sign up with them. Make sure that it has a decent firewall. If you are a tech-savvy person then you can even upgrade the firmware (using the likes of Tomato or DD-WRT) on many routers to improve the security amongst other things.

2. **Make sure your device has a decent firewall:** Most computers these days have an integrated firewall built in to the operating system. Windows has the imaginatively titled "Windows Firewall" and Mac OS X has an integrated one too. For Linux, it depends on your flavor.

3. **Install decent Anti-virus software:** Anti-virus software is a must for almost everyone. Yes, they will slow down your computer a little, but I think that is a pill worth swallowing as opposed to being infected by a virus. You don't need to spend any money on it either. One of the best anti-virus applications for PCs is Microsoft's own Security Essentials which will be built in for the first time to the forthcoming Windows 8.

4. **Keep your computer up to date:** Make sure you check your computer for updates! I've seen so many cases of computers that have never had any updates done to the operating system. Both Microsoft and Apple roll out updates regularly to their operating systems. These can be important security patches and you may be compromised if you don't install them!

5. **Use complex and secure passwords:** The first line of defense in maintaining system security is to have strong and complex passwords. Complex passwords are difficult for the hackers to find. Use a password that is at least 8 characters in length and include a combination of numbers, letters that are both upper and lower case and a special character. Hackers use certain tools to break easy passwords in few minutes. One recent study showed that a 6 character password with all lower case letters can be broken in under 6 minutes!