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Economics, Currency

A computer virus is a type of a malicious software program, whenexecuted replicates itself by modifying other computer programs and insertingits own code, infected computer programs can include, as well data files andmost of the programs, generally affects the way that computers work, theability of a virus to spread and damage a computer depends on the user, he/sheshould have first opened a damageable file or a file full of viruses that hascome from an email or another corrupted files. Information about computer virusViruses are corrupting several of computers and mobiles daily andthat's why many important files will be lost. With increasing of computer viruses threat we should learn moreabout the properties and the way of working in order to protect our computers. Computer viruses have many risks such as damaging the worldeconomy, wasting computer resources, corrupting data and increasing maintenancecosts, etc…In response, Free and open-source Antivirus have been developed, which we will talk about it later. Types of VirusesThereare so many different types of viruses, some of them are so many weak andsimple but also there are many other types of viruses that are strong andactive, some

examples:

*Ransomware*Spyware*Adware*Trojan*Horses*Keyloggers*Rootkits*Bootkits *Worms-Wewill talk about some of them: -Adware: adware is also known asadvertising-supported software, it is software which renders advertisements forthe purpose of generating revenue for its author. The advertisement are published on the screenpresented to the user at the time of installation, Adware is programed toexamine which internet sites, the user

visits frequently and to present andfeature related advertisements. Not all Adware has malicious intent but itbecomes a problem any way because it harms computer performance can beannoying.

-Spyware: this type of malicious Software, spies on you, tracks on your internet activities, it helps the hacker ingathering information about the victim's system, without the consent of thevictim. This Spyware's presence is typically hidden from the host and it isvery difficult to detect. -Worms : An activevirus, can copy itself and transfer from a computer to another, by gettingbenefit from the downloaded programs such as messaging applications, will replicate itself anddestroy information and files saved on the host PC, it works to eat up all theSystem operating files and data files on a Drive. -Trojan: This type ofvirus has a tricky style, for enticmenting the user, first they show you so many benefit applications by clickingthem the virus spreads into your computer and you can't control it anymore, however not all viruses carry a destructive " payload" and attempt tohide themselves, the defining characteristic of viruses is that they areself-replicating computer programs which modify other software without user con???? sent, they maybe programmed to stealpersonal and financial information, and later take over the resources of the hostcomputer's system files.

*Ransomware: Ransomware is an advanced type of malware that restricts access tothe computer system until the user pays a fee, your screen might show a pop upwarning that your have been locked out of your computer and that you can accessonly after paying the cyber criminal, the cyber criminal demands a ransom to be paid in order for the restriction tobe removed, the infamous Cryptolocker is one type of Ransomware.   Historical

DevelopmentThe firstacademic work on the theory of " self-replicating computer programs" was done in 1949 by (JohnVon Neumann) who gave lectures at the university of Illinois about " theoryand organization of complicated automata" the work of Von Neumann waslater published as the " theory of self-reproducing automata" in hisessay Von Neumann described how a computer program could be designed toreproduce itself, Von Neumann's design for a self-reproducing program inconsidered the world's first computer virus, and he is considered to be thetheoretical " father of computer virology". After him manyother scientists tried to do researches about virus for example: (Veith Risak, Jurgen Kraus, Bob Thomas, Michael Crichton.

.), their goal was to investigateabout how could a virus spread into a computer. What is an Antivirus? Often Abbreviated as (AV), sometimes known as anti-malwaresoftware. It is a computer software used to prevent, detect, and removemalicious software. Antivirus software was originally developed to detect and removecomputer viruses, hence the name , however antivirus software started toprovide protection from other computer threats. In particular, modern antivirus software can protect from:(malicious browser helper objects, Ransomware, Rootkits, Trojan, Worms, Spyware.

.) and so many other types of viruses. The first AntivirusAlthough theroots of the computer virus date back as early as 1949 when the Hungarianscientists John Von Neumann published the " Theory of self-reproducingautomata" which we talked about but the first known computer virusappeared in 1971 and was dubbed " creeper virus" this virus infected" Digital Equipment

Corporations". The creepervirus was eventually deleted by a program created by " Ray Tomlinson" and known as " The Reaper" some people consider The Reaper as thefirst antivirus software, but it's important to know that The Reaper wasactually a virus itself specifically designed to remove the creeper virus.*BeforeInternet connectively was wide spread, computer viruses were typically spreadby infected floppy disks, antiviruses software come into use, but was updatedrelatively in frequently, during this time virus checkers essentially had tocheck executable files and the boot sectors of floppy disks and hard disks, however as internet usage become common, virus began to spread online.

How do you know your computer has been infected by avirus? With opening acomputer it starts to work very slowly and will take a lot of time, then youcould notice that your computer has been infected by a virus, but remember thatnot every time slowly working of the computer will mean that it has beeninfected by a virus. Sometimes whenyour storage is full and there is no enough space your computer will workslowly, to make sure that the reason is a virus or not, again we should useantivirus.   How To Protect our Computer from Viruses? Most of us have had to deal with a Computer Virus or some Sortof Malware. When Our Computers Starts Slowing Down Or Behaving Is An UnusualWay, we Are Often quick to suspect that we have a Virus, it Might not be a virus, But it's Likely that you have some sort of malware. Some are malicious and others arejust annoying. The worst culprits are the hijackers-Malware programs that takeover your browser, or worse yet, your Computer.

That's why I want to explain 10 ways to protect our computer fromViruses: 1- install Anti-VirusMalware SoftwareThis tip may go Without Saying, This Protection is a must-have first step in keeping your Computer Virus Free, Remember no Anti-Virus program Can detect 100 Percent Of the Millions ofMalware types and Variants. 2-Keep Your Anti-Virus Software up to DateHaving Protection Software is thefirst step, Maintaining it is the Second free Anti-Virus Software is betterthan nothing, But Keeo in Mind That its not the Best solution, 3- Run Regularly Scheduled Scans with Your Anti-VirusSoftwareMany of us forget to do this. Setup your Software of choice to run at Regular intervals, once a week ispreferred, but do not wait much longer between Scans. It's Difficult to work onyour computer while your Anti-Virus Software is running, so the best way is toRun the Software at night when you Aren't using your Computer. 4-Keep your Operating System CurrentWhether Your Running Windows, Mac OS X, Linux or any other Operating System, keep it up to Date. Operating System developers are always issuing securitypatches that fix and plug security leaks, These patches will help to keep yourSystem Secure.

5-Secure Your NetworkMany of our computers connect toour files, printers, or the internet via Wi-Fi connection, make sure itrequires a password to access it and that the password is strong, neverbroadcast an open Wi-Fi connection , useWPA or WPA2 encryption. WEP is no longer strong enough as it can be bypassed inminutes by experts. It's also a good idea to not broadcast your SSID (the nameof your Wi-Fi network). 6-Think Before You ClickDo not open an Email attachmentfrom Somebody or a company that you donot know, Do not click on a link in aunsolicited email, always hover

over a link(especially one with a URLshortener) before you click to see where the link is really taking you, if youhave to download a file from the internet, an email, an FTP site, afile-sharing service, etc..

, scan it before you run it, a good Anti-VirusSoftware will do that Automatically, but make it is being done. 7-Keep Your Personal Information Safethis is the most difficult thing to do on the internet , manyhackers will access your files not by brute force, but through socialengineering, they will get enough of your information to gain access to your online accounts theywill continue from account to account until they have enough of your info, lockdown all of your privacy setting, and avoid using your Real name or identity ondiscussion boards. 8-Don't Use Open Wi-FiWhen you are at the local cafe shop, library, and especially at theairpot, don't use the " free" open (non-password, non encrypted) Wi-Fi, thinkabout it, if you can access it with no issues, what can a trained maliciousindividual do? 9-Back Up Your FilesThe best thing you can do is backup your files-all of them, ideally you will have your files in at least threeplaces, the place where you work on them, on a separate storage device, andoff-site. Keep your files on your computer, back them up to an external harddrive, then back them up in a different location. 10-Use Multiple Strong PasswordsNever use the same passwords, Typically, we use the same email address or username for all of our accounts, those are easy to see and steal if you use the same password for everything , or on many things, and it discovered , then it takes only seconds to hack youraccount, use a strong password, use lower case, upper case, numbers, andsymbols, in your password, keep it easy to remember but difficult to guess, donot use dates or pet names.

What's the aim of Virus Writers? There are thousands and thousandsof different viruses and malware on the internet today. So you may be asking, why do people create viruses and malware?*Making Money: Some Malwares is designed tocapture Information about the computer user and send it to the person orcompany responsible for making the malware. The information they collect isthen used to target advertisements to your computer that you maybe interestedin viewing these ads come in the form of E-mails, if enough computers getinfected, they can earn money from all the ads displayed, the more ads theysend out, the more chances they have to getting people to buy something orvisit the advertiser .*Stealing account InformationMaybe a virus is created to stealonline account information associated with online games, using this type ofmalware, a person could gain access to a victim's account and steal therevirtual goods and currency.

They could even sell their ill-gotten virtual goodsto other players for real money, or sometimes they will only try to give apolitical message.*Causing ProblemsThere are some people that createviruses and malware because they can, they enjoy causing troubles, seeingcomputer users get annoyed and have to fix their computers, some malware cancrash an entire network system and cause system outages for large companies, like banks or production companies, other hackers are trying to demonstratethat a Vulnerability exist in Software, or simply because they wish to explorecybersecurity issues , artificial life and evolutionary Algorithms. Conclusionout user conceuser concent ther software withoutuser concent yload" and attempt to hide themselves, the difining ou can't*Well most people believe that all computerthreats are due to a virus, but now we know

that there are a lot of differentthreats beside viruses*we know that there are different types of virus such as Trojans, Worms, Spyware..

*Back to viruses we learnt a little bit of what it does such as howit infects our computer system and destroys it slowly.*We talked about the importance of Anti-virus and how it works.*The most important thing we learnt to protect our Computers fromall the types of Viruses and Malware.