

# Computer Ethics, Crime and Security



**In this chapter, you will learn about :**

- *Computer Ethics* • *Intellectual Property Rights* • *Copy Right (c)*
  - *Software Piracy* • *Computer Security* • *Computer Crime : Hacking/Cracking*
- Final Words*

Computer are used nowadays in almost all walks of life. This age is called the age of computers. Computers are used in education, business, manufacturing, designing, entertainment, research and development. They are everywhere, be at homes, school, shops, offices, railway stations, airports and hospitals. It is one of the greatest invention of our time. But as some great inventions are used by also people to cause harm. Similarly, computer can be used to cause harm.

## COMPUTER ETHICS

You must be aware of certain ethics related to use of computer. Ethics are beliefs and rules. These rules state what is right and what is wrong. Ethics is important in our day life also.

A Mahler sense of ethics is something a person develops over a period of time. Due to this reason, parents, teachers and elders are supposed to exercise some authority over their children.

Children are not expected to know, how to make some decisions for them. But children are had to make mistake. There are children who come it criminal. There are Juvenile courts of law, that are not the some as other criminal courts, as young people are not capable of criminal or unethical intention like an adult. Such children are punished according to the ruling of there courts. Ethical Matter, it comes under the subject of moral development.



Good behaviours is that, which please and helps others and is also approved by society. Behaviours is generally judged by the intention of a person.

The advance of technology makes it possible for unethical and criminal activities to be carried out in a more so hesitated way. Children should thus be aware of moral and ethical issues, and must develop a good sense and social responsibilities. There are always people who are violating the rules of society for "money" or sometimes just for "fun".

The problem of computer ethics are also wore or less same as in case of other general ethical problems.

let us discuss some of the major ethical issues in computer world nowadays.



## INTELLECTUAL PROPERTY RIGHTS

Property is anything you own. You have right over your property, it is protected by law. Similarly, ideas and thinking produced by the mind are also prospected by law. It is illegal to use them without the permission of the owner or producer. The rights related to literary or artistic work, inventions, discovers etc. are called intellectual property rights.

Due to the advancement of technology and the advent of computer, storing information becomes easier. The internet is a huge store of information. Small disks can contain thousands of lines of valuable information. This information can be easily downloaded and used by you. But it does not mean that you can use this information (created by other people) as you wish. Do not use this information without permission. There are certain ethical issues relating to the use of such information.

You use intellectual property all the time, whatever you know it or not.

For example, In most of the books, magazines, the matter belongs to the author who writes them or to the publishing company that printed them. The same also applies to software, music and art etc.

### COPY RIGHT (C)


You must have seen this © symbol, © enclosed within a circle, on different items, books, magazines and even web pages. The © symbol is used widely. This symbol generally comes before a statement. All rights reserved. Do you know why this statement and symbol are used? This symbol shows that the material and information are copy righted, and are the sole property of the owner. It is unlawful and unethical to use them without the permission of the owner.

Suppose, such properties were legally reproduced and freely given away. The writes, publishers will not be benefited in terms of money and other advantages and hence will be less motivated for containing the hardwork to develop such material. So, in order to keep exploring, thinking and inventing by creative people, their work, must be protected by law.

For this reason such materials are copy righted by law. But some material, such as the material on a website easily available. The owner cannot check or control copying or downloading of such information. It is the duty of the uses to be honest and not to use the material illegally. The least you can do while using this information is to acknowledge the author. This is called referencing. Using reference shows morality. You cannot avoid copying or using information from the interest that are copy righted. But the right way to use it is no acknowledge the sources sincerely.

### SOFTWARE PIRACY

Software piracy is the illegal reproduction and distribution of software application. Pirated software is a very dangerous trend. It hurt everyone, from developers to sellers and software users. Software piracy has a significant impact on the economy. It leads to job losses and revenue losses to the software companies.



You must avoid using pirated software. Do you know, that even possession of software that has been illegally copied is also piracy? The different forms of software piracy are given below :

### ***End-user Piracy***

All software are licensed. When some one copies software without the appropriate license for each copy, it is called end user piracy. It is includes both copying and distribution of the software.

### ***Internet Piracy***

You can download various software from the internet. You must make sure that the downloads available on the internet are authorized by the owners or publisher for distribution. But there are many sites that offer software illegally over the internet. Unauthorized copies downloaded over the internet falls under internet piracy.

### ***Pre-installed Software Piracy***

Some computer manufacturers install software in their computer and sell them to the users. This is a legal process. The manufacturers acquire license for this purpose from the software developer companies. But when a computer manufacturers takes one copy of a particular software, and illegally installs it more than one computer, it performs pre-installed piracy. You must look out for proper license do cementation while purchasing a new computer, to ensure that you are being given legal software.

### ***Counter Felting***

This is the process of making and distributing illegal copies of software packages that reproduces the developer's packages. People makes duplicate CDs of original software and sells them at low price. The illegal copies resemble the original copy.

### ***Online Auction Piracy***


This takes several forms such as selling of software that is never authorized for resale by a third party. Sometimes online distributors use legal terms and phrases to fool users.

So, don't be fooled. It is a few that the price of software is sometimes too high, but you must not use illegal copies which are cheap and easily available.

There will be several occasions. When you will face such problems. Never hesitate to show your morality. It may appear to be beneficial for sometime but ultimately, it will lead to frustration as most pirated software have some limitations.

Some of the limitations of pirated software are given below :

1. **Quality** : Pirated software often does not have various key element. It also does not have warranty protection or upgrade options.
2. **Viruses** : Some people may supply dangerous viruses with counter felt CDs. This may damage your hard disks and remove your valuable data. Pirated software, that contains viruses may destroy company resources. People often embed malicious programs with the pirated and sell them to another.

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3. **Privacy** : Privacy is an important aspect of life. It is desirable condition or a moral right that a person has, in relation to another persons or with respect to the possession of information by other persons about himself or herself. It is unethical to infringe in the privacy of other people without the consent of the person. It leads to embarrassments.

## COMPUTER SECURITY

Computer security includes procedures and techniques, that are designed to protect a computer from accidental or intentional theft, unauthorized access or manipulation. It is both an individual and an organizational concern.

Computer security, is often viewed as a disaster for the user because it can cause services damages to both the individual user and the organization. Such damages may include loss of revenue, valuable data loss, productivity loss and many more which may ever lead to insolvent. Computer security breaches can be broadly divided into following categories :

1. Hardware
2. Networks
3. Natural disasters
4. Software
5. Personal

Hardware breaches can be both intentional and accidental. Cables, modems, phonedines are often vulnerable to security breaches.

Software breaches include computer viruses, password cracking, various sniffer programs, malicious codes etc.

Computer networks are vulnerable to security breaches. A weakly managed network system can be harmful. As networks are used to transmit data and information, they may be rapped by unethical people to access information about a company.

Natural disasters can also cause security violation. They may lead to operational problem in a computer system. Hurricanes, earthquakes, floods etc. may prove devastating for companies.

Computer security controls are established and implemented to reduces security breaches.

**There are many types of controls. Some of them are :**

1. Application control
2. Development control
3. Access control
4. Physical felicity control
5. Personal control



## COMPUTER CRIME : HACKING/CRACKING

As in the other system and fields, there are also crimes related to computers. Computers crime result from the deliberate tampering with data and information.

The people who are associated with computer crimes are often called hackers, crackers, virus programmers, breaches, information warriors etc. whatever name they may have, they are all people who violate computer security. They practice unlawful and illegal activities related to computer system.



A hacker is a person who breaks into a computer system to get illegal access to the information shored there. A hacker may not cause any horn to the system or organization, but hacking is still illegal and unethical.

A cracker is a person who breaks into a computer system just like a hacks, with the intention to steal passwords, files or programs for unauthorized use. They sell the information to some often people for money. Crackers cause financial damages to an organization.

Virus programmers are like crackers who breach computer system, in order to steal information or cause harm to computer system. They program dangerous viruses to get access to system.

### FINAL WORDS

There are numerous laws to control computer crimes and numerous measures to control security breaches. Companies are spending millions for this purpose. These are numerous occasions of software piracy. Laws are revised, books are written and even many websites are dedicated to educate the people about the harms and ethical issues.

You should, however be aware that ethical conduct goes beyond merely adhering to laws. There are ethical standards in almost all cases. There are numerous debates on the prevention, deterrence retribution and care among people.

But it is the duty of individuals to adhere to ethical issues in life.

Ethical issues will always remain. You have to face all of them in whole life. So be careful and aware of these issues and let live in peace and harmony respecting other's words, right and privacy.

### Points to Remember

- This age is called the age of computer. Computer are used in education, business, manufacturing, designing, entertainment, research and development.
- Ethics are beliefs and rules which states what is right and what is wrong.
- Ethical sense in the young people is a serious matter. It comes under the subject or moral development.
- Good behaviour is that, which please and helps others it is also approved by society.

- The rights related to literary or artists work, inventions, discoveries, etc. are called intellected property rights.
- A mature sense of ethics is something a persons develops over a period of time.
- Software piracy is illegal reproduction and distribution of software.
- A hacker or cracker is a person who breaks into a computer system to get illegal access to it.

## EXERCISE

### A. Tick (✓) the correct option :


- This age is called the age of  
 (a) crime  (b) computer  (c) entertainment
- This piracy is illegal reproduction and distribution and distribution of software.  
 (a) Software  (b) Hardware  (c) nowhere
- The people who are associated with computer crimes are called  
 (a) hacker  (b) user  (c) operator
- Privary is an important aspect of  
 (a) computer  (b) internet  (c) life
- This symbol generally comes before a statement.  
 (a) ©  (b) @  (c) #

### B. Fill in the blanks :

- \_\_\_\_\_ include managing user accounts and passwords to ensure authorise access to data programs also the computer systems.
- Software piracy is then illegal \_\_\_\_\_ and \_\_\_\_\_ of software.
- \_\_\_\_\_ controls are used to protect system physically from damage.
- This age is known as \_\_\_\_\_.
- A \_\_\_\_\_ is a person who breaks into a computer system to get illegal access to the information stored them.

### C. Tick (✓) the correct statement and cross (x ) the wrong ones :

- The (c) symbol is used to show that material in copyrighted.
- Ethical sense in the young people comes under the subject of moral development.
- The rights related to literary or artists work, inventions, discoveries are called intellectual property rights.
- Natural disasters do not causes security violations.



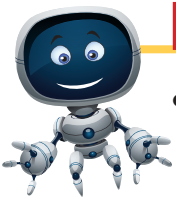
4. Hackers are these people who protect the computer from hacking.

**D. Answer the following questions :**

1. Define ethics? Explain why ethics are important.
2. What is software piracy?
3. What do you mean by intellectual property rights?
4. Explain computer crime.
5. Write short note on computer security control.

**E. Write short notes on :**

1. Copy right
2. Security controls in computer
3. Internet piracy
4. Computer ethics
5. Hacker



**ACTIVITY**

- Visit your computer lab and find out the antivirus software loaded on the computer system. Also find out the measures taken to avoid tampering and misuse of data from the computer systems.