# Virus

It is designed to spread from one host to another and has the ability to replicate itself. Similarly, just as viruses cannot reproduce without a host cell, computer viruses cannot reproduce or spread without programming, for example, a file or document. In more technical terms, a computer virus is a type of malicious program or code written to modify the way a computer works. It is also designed to spread from one computer to another. Viruses insert themselves or attach themselves to a legitimate macro-supporting program or document in order to execute their code.

## How does it work?

It is a general term that includes many different types of viruses, delivery mechanisms, and impact. To understand how a virus works, it is useful to divide it into 2 categories: Those that begin to infect and replicate as soon as they enter your computer and those that remain dormant waiting for the user to voluntarily execute the code.
The virus has 4 phases:

- Sleeping phase: This is when the virus remains hidden in the system.
- Propagation phase: This is the stage where the virus begins to self-replicate, storing copies of itself in files, programs, or other parts of the system.
- Activation phase: It usually requires a specific action to trigger or activate the virus. It can be by a user action, either by clicking on an icon or opening an app. Others are programmed to activate after a certain time.
- Execution phase: In this phase the virus program runs and releases its payload.

## Types of viruses

- Direct action viruses: It is the most common and easiest to create, direct action viruses enter your computer, cause chaos, and then delete themselves.
- Resident virus: It infects the memory and installs itself in the computer's RAM, which allows the virus to persist even if the original virus is removed.
- Polymorphic virus: It changes shape to hide. When they replicate, their clones are slightly different from each other, which helps to avoid detection.