Viruses

A virus is a relatively small, simple program, capable of spreading and achieving the purpose it was written for. The terminology is very similar to the vocabulary used for viruses in biology since they are very similar. Unauthorised access to the system, its modification, obtaining and harming the other party’s data is called *computer infiltration*. The process of spreading the virus is called *infection*. The attacked file is called a *host* and its state *infected*. Keeping the infected file without removing the virus is called *quarantine*. Removing the virus is called *cleaning*.

# Virus categories:

* according to the place where they go
* according to the way they are stored
* according to the way they harm
* according to the ability to mask themselves from anti-virus programs

**According to the place where they go**

* + launchable files – first, the virus opens and only then an application starts, or the virus overwrites the beginning of the file
  + the system – goes into the boot sector and launches before the OS
  + files with macros
  + any place on the drive

**According to the way they are stored**

* + non-resident – start with a launchable program and infect others
  + resident – after opening the infected file they are permanently saved on the drive and spy on the user

**According to the way they harm**

* + non-destructive – visual and acoustic effects
  + viruses infecting files – they overwrite programs
  + viruses harming data – they re-code, format, delete
  + viruses modifying data – at times change data
  + viruses sending data from the PC – via email or networks
  + viruses damaging the hardware of the PC – allow changes in BIOS

**According to the ability to mask themselves from anti-virus programs**

* + viruses with the same code for all copies
  + polymorphic – they re-code themselves when spreading
  + stealth – they mask their activity, hide all traces

# Malware – followers of viruses:

* + trojan horses – they act like required and harmless software, but in fact follow the user’s activity, send data and attack at unexpected times
  + computer worms
    - network worms – spread due to server vulnerabilities
    - e-mail worms – spread through email
  + spammers – the infected PC sends out spam

# Spreading viruses:

* + infection via data storage
  + infection via a network
  + infection via email

# Virus symptoms:

* + harassing
  + destructive

# Prevention:

* + *passive protection:*
    - use legitimate software
    - do not use unknown data storage
    - update the OS and applications regularly
    - minimise sharing folders
    - use a firewall
    - do not open spam, email from unknown senders
    - do not go to websites with dubious content
    - do not install unknown programs
    - back up
  + *active protection:*
    - anti-virus programs
    - malware detection programs – they identify, spyware, adware

**Literature**

Skalka, J. – Klimeš, C. – Lovászová, G. – Švec, P.: Informatika na maturity a prijímacie skúšky, Enigma Publishing, 2017, ISBN 978-80-89132-49-2