

07 Nov '24

Typing - review / revision

→ When looking at a text and typing,
read each character / alphabet out loud
before typing and then type it.
(using our 'right channel' to make
it faster - by saying it loudly)

HW: (1) Practice typing for 30 minutes and
try to type at least 10 wpm

HW: (1) Update excel with all the previous week's homeworks

(2) Take a photo of Money/currency picture & upload

Hardware: All the technical devices that we use are called hardware — these are physical parts like our body parts.

Eg: Mobiles, tablets, PC (personal computers),
(phone)
TV (television; tele = distance, vision = seeing);

For PCs — hardware includes
keyboard, mouse, monitors (screens),
mini PC (this is the main part
where the software is), speakers, camera

Software: Our brain is a physical part
of the body but all the thinking inside
the brain is 'mental' activity.

'Software' is like the mental activity
of the computer. It is called 'virtual'
(not real/physical) activity. All the software
interactions over the internet, video calls,

messaging, AI etc. are called 'virtual world' (It's not physical; All of these are happening virtually / mentally).

Everything we see on the screen is software.

Software types: → Operating systems, applications

(1) Operating system ^(OS): The main software on the device that turns on when we turn on the device. OS controls all the 'thinking' of the device.

Eg: OS types for PC — windows,
mac OS, Linux

On our school PC, we are using Windows OS.

→ For mobiles/tablets, the main OS types are Android, iPhone OS

(2) Applications: Applications are software that run on top of (using) OS.

Like when we are born, we can already see objects how they look, we can breathe, we can hear. These are

like the OS. But when we learn new mental skills or activities like mathematics,

languages etc., those are like applications.

→ Applications can be different or same across different OS types.

→ Eg: Windows apps — Internet browsers, PyCharm, File explorer (to check the files on the PC)

Android apps — calculator, Whatsapp, games etc.

→ Files and file types : A file stores some data that we can open and use whenever we want. Directories or folders can store files and other directories like a tree. Different applications use different file types.

→ Filenames end with file type or file extension

Eg: Python files are named like
'division.py'
↓ ↳ file type/extension
file name

Text files: To type simple text (without different styles for text/font, without figures (images, tables)).

Extension: '.txt'

Windows app: Notepad

Android app: Jotat, Browser

Word files: To type text with different styles, with images, tables etc.

Extension: .doc, .docx, .odf, .gdoc

Android/Windows apps: Microsoft word, Libre office writer, Google docs (Browser)

Pdf files : They are also like word files with text, images, tables etc. but cannot be edited. They are like a printed textbook — you can write on top of it or comment but not edit the text.

Extension : .pdf

Windows apps : Foxit reader, Browser,
Adobe acrobat

Android : Google drive, Adobe
acrobat

Tables : To store data in tables and perform calculations
with rows (horizontal - orizonto) and
columns (vertical - devijito)

Ext: .xls, .xlsx, .odf, .csv

Android/Windows: Microsoft office excel,
Libreoffice calc, Google sheets

.csv means 'comma separated file'

If you open it in notepad as a
text file, it looks like

If you open 'name, place, kind' in google doc, it looks like

name	place	kind
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Video files: Store video audio

Ext: • .mp4, • .mkv, • .avi, • .mov,
• .wmv, • .flv, • .webm

Android / Windows apps: VLC, Browsers
To create videos: Camera, Open Broadcast Studio (OBS)

Audio files: Only audio (no video)

Ext: • .mp3, • .wav, • .aac

Android / Windows apps: VLC, Browsers,
audio players

To create audio: Recorder, Smart audio recorder

File permissions : You can share a file/folder with others in Google drive or on the ^{same} computer and tell who can read, comment, write/edit the file.

→ With read permissions, you can read the file/folder but not comment/edit/delete

→ With comment permission, you can read, comment but not edit/delete

→ With write permissions, you can read, comment, edit/delete the text.

For 'Virata Home School' google drive folder, student has 'comment' permissions — so you can't accidentally delete anything. For student's google drive — they have edit permissions.

HW: (1) Create a file of each file type that we studied about. Try to edit the file also.

(2) Create these files on tablet and PC. And then copy them to your google drive homeworks folder.

08 Nov '24

File size : File/directory sizes are measured in
bits (b), bytes (B), kilobytes (KB = 1000 B),
megabytes (MB = $10^3\text{ KB} = 10^6\text{ B}$), gigabytes
(GB = $10^3\text{ MB} = 10^6\text{ KB} = 10^9\text{ B}$), ^{million} terabytes
_{billion} (TB = $10^3\text{ GB} = 10^6\text{ MB} = 10^9\text{ KB} = 10^{12}\text{ B}$) _{trillion}.

A bit is a boolean value (can be true('1') or false('0'))

Computer understands only boolean values.
They are like light switches - can be 'on'
or 'off'. There are lots of small switches
in the computer.

→ Each ^{small} integer (in python) takes 1 bytes
→ float — 2 bytes
→ character — 1 byte
→ bool — 1 bit

→ For textfiles, if there are 'x' no. of characters, the size will be
 $= x \times \text{size}(\text{char})$
 $= x \times 1 \text{ byte}$
 $= x \text{ bytes}$

→ For word files, because there is style information also for the text, so they

will be bigger than 'x' bytes for text with 'x' number of characters.

→ tables — for 'CSV' size will be like for text files (with commas)

abc, xyz, pqr, 123

size = 15 bytes (For 15 char with commas)

→ pdf is about same size as word

→ video file size is about 100 MB per minute of video

→ Audio file size is about 1 MB per minute of audio