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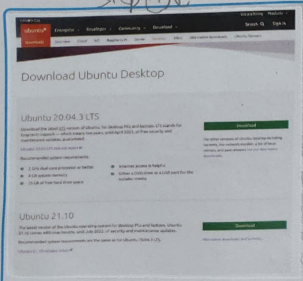

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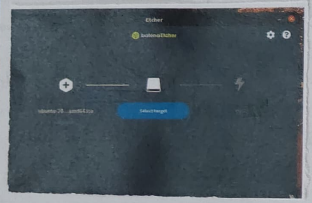
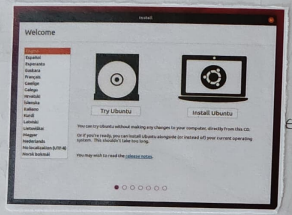
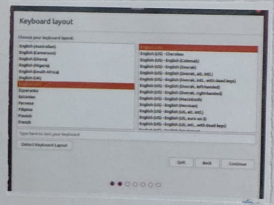




←Step③



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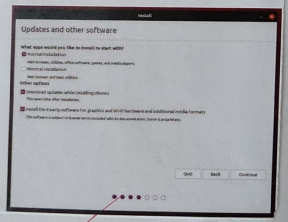

Step④↑

Date

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Install operating system - Unix family (Linux / Ubuntu)

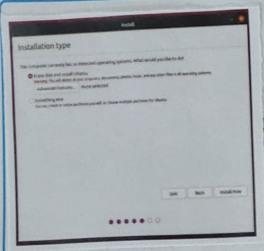
Aim: Installing Ubuntu

Requirements: Computer, Ubuntu OS CD, CD Drive or pen drive

1. Download an Ubuntu Image
   Download an ubuntu 20.04 LTS image here.

2. Create a Bootable USB stick
   To install Ubuntu Desktop, write downloaded ISO to a USB stick to create the installation media. this is not the same as copying the ISO, and requires some bespoke software.
   Choose the version that corresponds to current operating system, download and install the tool. Rufus on windows, Etcher on Mac OS and Startup Disk Creator on Ubuntu.
   Select downloaded ISO, choose USB flash drive and then click flash! to install images.

3. Boot from USB flash drive
   Insert the USB flash drive into the laptop or PC to install ubuntu and boot or restart the device. It should recognise the installation media automatically. If not, try holding F12 during startup and selecting the USB device from the system-specific boot menu.



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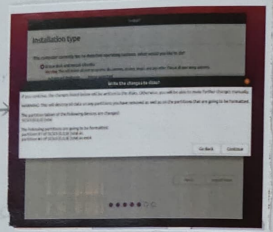

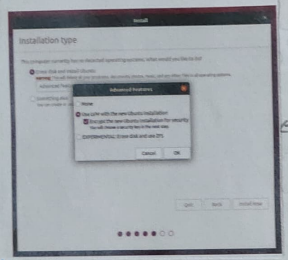

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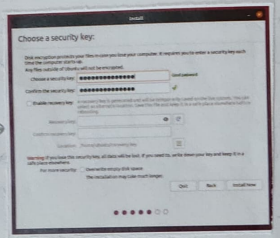

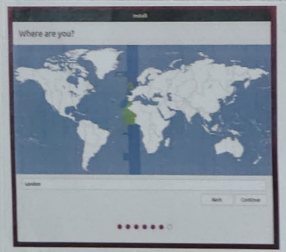

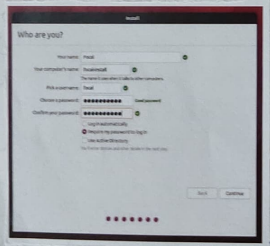

Step 7 ↑ Step 8 ↑

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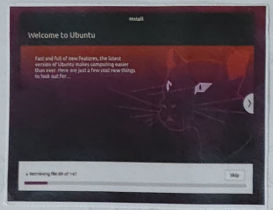
To proceed, click Install Ubuntu.
Select Keyboard layout. Next, click continue.

4. Installation setup
Next, choose between the normal installation and Minimal installation options. The minimal installation is useful for those with smaller hard drives or who don't require as many pre-installed applications. In other options, download updates as well as third party software that may improve device support and performance (for example, Nvidia graphics drivers) during the installation. It is recommended to check both of these boxes.
If not currently connected to the internet, next prompted to do so at this point. Ensure you are able to remain connected throughout the installation.

5. Drive Management
This screen allows to configure installation. If like Ubuntu to be the only operating system on the device, select Erase disk and install ubuntu, continue the installation without enabling encryption, click Install now and confirm the changes continue, otherwise keep reading

6. (Optional) Enable Encryption:
If like to encrypt device, select Advanced features.
> use LVM with the new ubuntu installation
Encrypt the new ubuntu installation for security



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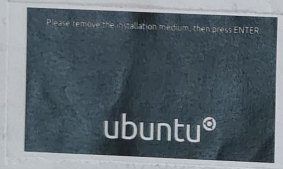

Step 9

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next prompted to create a security key once you click install now.
Click Install now and confirm the changes with continue.

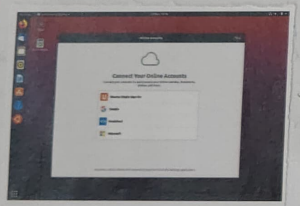
7. Choose Location
Select location and timezone from the map screen and click continue. This information will be detected automatically if connected to the internet

8. Create login details
On this screen, next enter name of computer as it will appear on the network. Finally, create a username and a strong password.
Choose to log in automatically or require a password

9. Complete the Installation
Once the installation has completed, system will ask to restart.
Click Restart Now.
When clicked on restart, remove your USB flash drive from the device. Once you've done this, press Enter.
Enter password on the login screen (assuming you selected that option when creating your login details)
The welcome widget will help you with some additional setup options, including:

- Connecting profile to various online accounts.
- Configure Livepatch to automatically apply updates to device.
- Opting into sending device information to Canonical to

Step 9



Step 9

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help improve ubuntu
- Activating location services
- Downloading additional apps from Ubuntu Software.

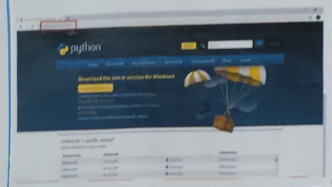
- It's always good practice to ensure system is up to date, especially after a fresh install.

- Check for updates and apply them
- Update ubuntu using the terminal.
- Press CTRL+ALT+T to bring up a Terminal window (or click the terminal icon in the sidebar).

Type in:
sudo apt update
Enter your login password.
This will check for updates and tell you if there are any that need applying. To apply any updates, type:

sudo apt upgrade
Type Y, then press ENTER to confirm to finish the update process.

Step ① ↓



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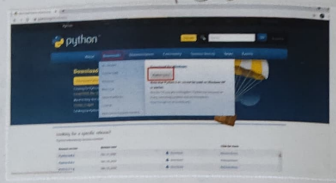

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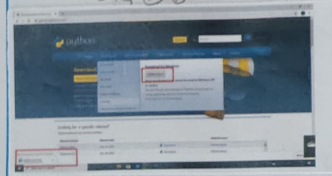

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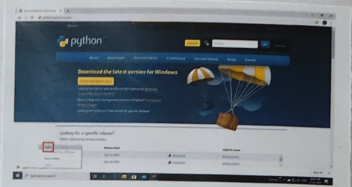

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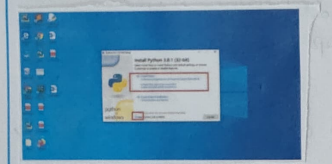

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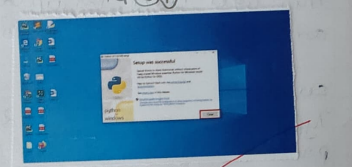
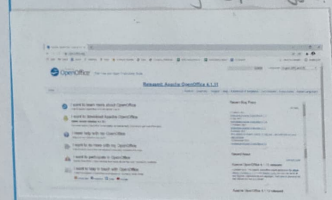


Installing openoffice



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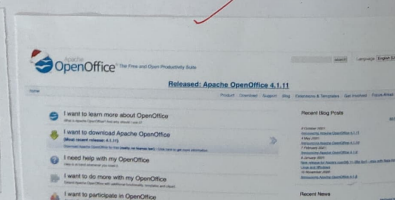

↑ Step ②

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Install Application software - Python 3.8, Office 2010/2013, Ms SQL, TOAD, Openoffice etc,

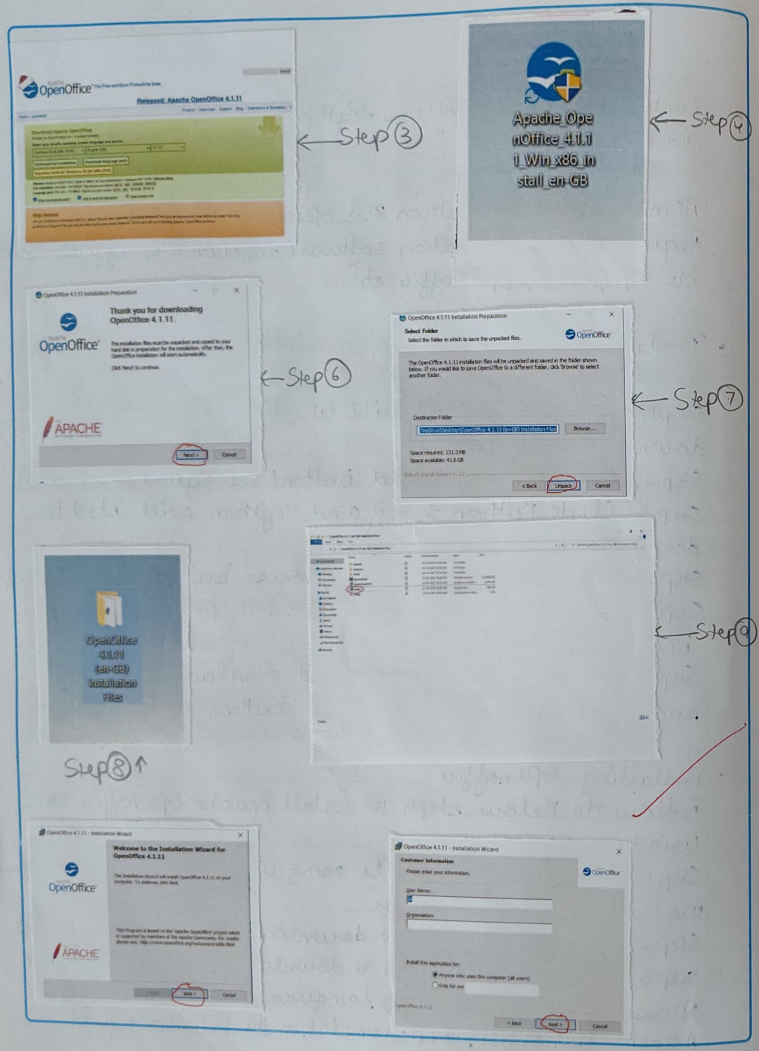
Aim: Installing Python 3.8, Openoffice etc.
Requirements: Application software - Python 3.8, Office 2010/2013, Ms SQL, TOAD, Openoffice etc.

- Installing Python 3.8

Step1: Click this link, it will take to the Python official download website.
Step 2: Click the download button/ see Python 3.8.2
Step 3: Click Python 3.8.2 and Python will start to download.
Step 4: Next, right click the mouse button (click to open).
Step 5: Enable to add Python 3.8 to path and click install now.
Step 6: Wait a few minutes and display setup was successful. Next click the close button.

- Installing Openoffice.

Follow the below steps to install Apache Openoffice on windows:
Step1: Visit the office website using URL https://www.openoffice.org/ in any web browser
Step 2: Click on "I want to download Apache Openoffice" link.
Step 3: The link directs us to download page on which we choose operating system, language, and version of the Apache Openoffice, and then click on the Download full



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installation button.

Step 4: Now find the executable file in the download folder of system and run it.

Step 5: It will confirm that the software makes changes to system, so click on the Yes button.

Step 6: Now the installation process is started so click on the Next button.

Step 7: Next screen will be of unpack the Apache Openoffice in which the location where to extract folder, the setup will take place, and after that, next continue setup in that folder, Now click on the unpack button.

Step 8: After unpack the setup will automatically start if not started then find place where setup file available.

Step 9: Now in the folder find many files but click on the set up to continue installation.

Step 10: After double click again prompt confirmation of the setup to make changes to system. Click on Yes.

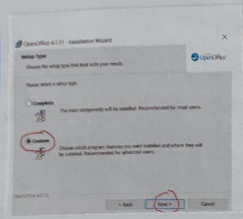
Step 11: The setup will start now click on the Next button.

Step 12: Next screen will be of customer information where to write name and organization name otherwise click on Next.

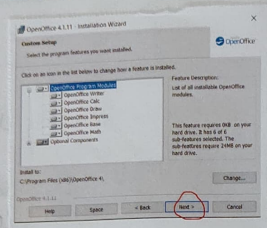
Step 13: Next screen will be of setup type if don't get direct installing software then click on complete and next it is for basic users and if you customize setup then click on custom and then next it is recommend for Advanced user.

Step 14: Next screen will be of the program modules and components choose the drive and click on Next button.

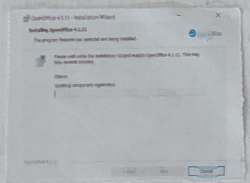
Step 15: Next screen will be of choose file type and click on Next button. Here we select Microsoft word Documents and

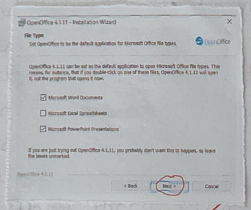


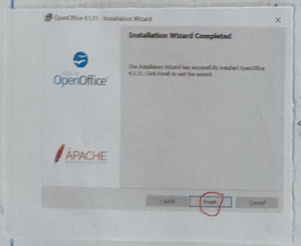
Step 13



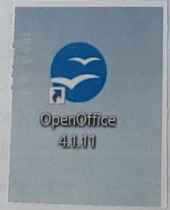
Step 14







Step 18



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Microsoft PowerPoint Presentation

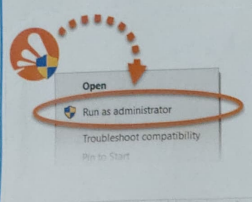
Step 16: Now the program is ready to install. Click on the Install button.

Step 17: After this, the installation process will start and it might take 3-4 minutes depending on your computer speed and specification to complete the installation.

Step 18: After the installation process is completed, click on the Finish button.

At this point, Apache Openoffice is successfully installed on the system and an icon is created on the desktop.

Reviewed 6/11/24. correct your screenshot



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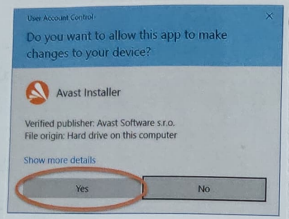

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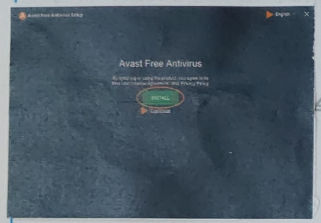

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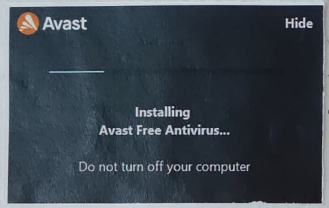
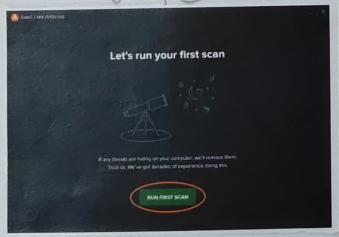


← Step 6

↓ Step 7

↓ Step 8



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11. Install anyone of the antivirus software (Avast, Kaspersky etc) and observe the variations before and after installation.

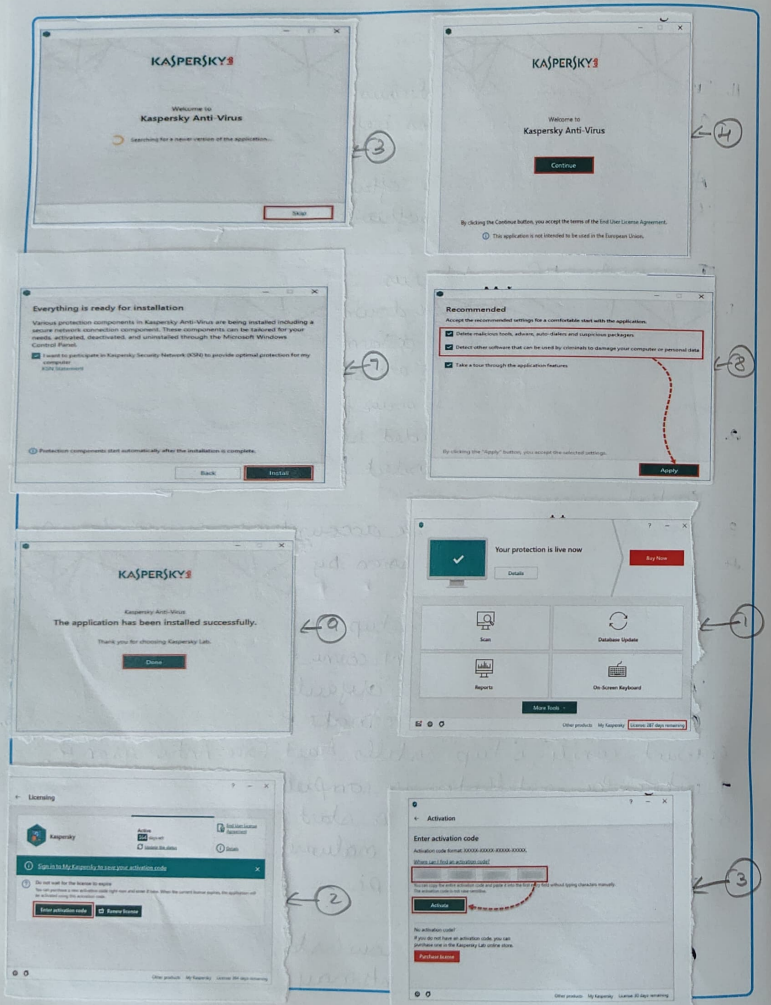
Aim: Installing antivirus software

Requirements: Antivirus software - Avast, Kaspersky.

Install Avast Free Antivirus

1. Click the button below to download the Avast Free Antivirus setup file, and save it in a familiar location on your PC (by default, downloaded files are saved to Downloads folder). Download Avast free antivirus for windows.
2. Right-click the downloaded setup file avast_free_antivirus_setup_online.exe and select Run as administrator from the context menu.
3. Managing administrative accounts on your windows PC
4. If prompted for permission by the User Account Control dialog, click Yes.
5. To change the default setup language, click the current language in the top-right corner of the screen. Then, click Install to proceed with default installation, or click Customize if you need to make changes to the default setup.
6. Wait while setup installs Avast Free Antivirus on PC.
7. When the installation is complete, click continue.
8. Click Run first scan to start a comprehensive smart scan, which detects viruses, malware, bad browser add-ons, and other issues on your PC.

Avast Free Antivirus is now installed on PC and ready to use, but some components may not fully function until



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restart the PC.

It is no longer necessary to register Avast Free Antivirus, as initial free subscription automatically activates after installation.

Install Kaspersky Antivirus.

1. Download the Kaspersky Anti-Virus installation package from the kaspersky website, or via the link in the email you received from us.
2. Run the installer.
3. Wait until the searching for a newer version of the application has been completed or click skip.
4. Read the End User Licensence Agreement and click continue if agree to the terms.
5. Read the Kaspersky Security Network Statement carefully. Select the checkbox agree to the terms.
6. Together with Kaspersky Internet Security, Kaspersky Secure Connection will be installed to ensure protected connection to the Internet. Click Install.
8. Wait for the installation to complete. Make sure the recommended settings are enabled and click Apply.
9. Click Done.

Kaspersky Anti-Virus will now be installed.

1. To activate the application: In the application window, click.
2. Click Enter activation code.
3. Enter the code from the message recived after buying the license and click Activate.
4. Click Done. Kaspersky Anti-Virus is now activated.

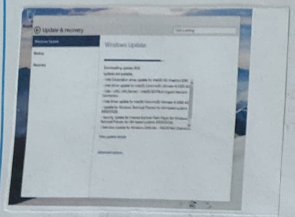


Fig1: update drivers by windows update

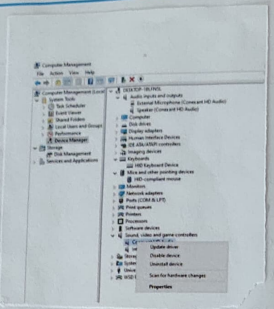
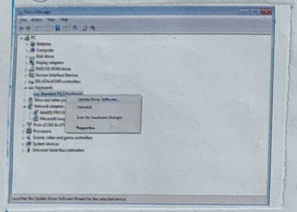
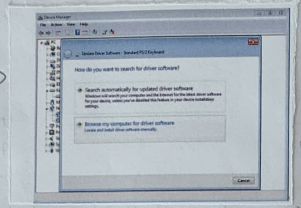
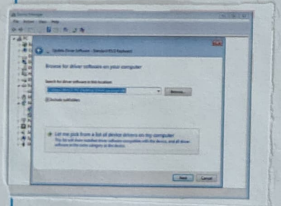
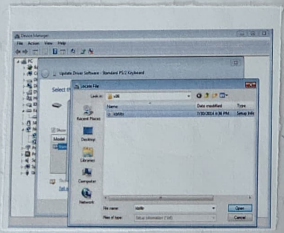


Fig2: Drivers updated









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12 Add new Hardware device (Keyboard, mouse, speaker, Mirophone)

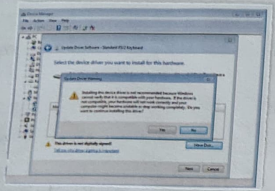
Aim: Adding Keyboard, mouse, speaker, Mirophone.
Requirements: Computer, Keyboard, mouse, speaker, Mirophone.

Same setting for all device. (Keyboard, mouse, speaker, Mirophone)
In windows XP and windows 7 need to add device.

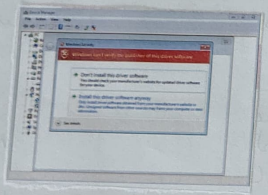
How to Add and Install and Update Hardware Drivers in windows 10

Installing drivers through windows Update
- Simply launch it from Start > settings > Update and Recovery and click check for Updates.
- Click check for updates (make sure you have an active Internet connection).
- Immediately, windows Update will detect system configuration and download all the appropriate drivers for system.

1. Navigate to Device Manager and right-click on the Keyboard and click on update driver software.
2. Click on Browse my computer for driver software.
Note: For the keyboard Driver Package navigate to the Sureloc installation folder (Drivers (windows 10 PS2 x64 for Eg: c:\Program Files (x86)\42Gears\Sureloc\Drivers) windows 10\PS\2\x64\Kb filter.inf.
3. Click on let me pick from a list of device drivers on my computer.
4. Navigate to the Driver package folder (x86 folder for 32-bit



← Step 5



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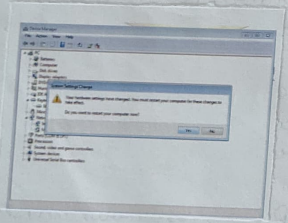

← Step 7

Date

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machines and x64 folder for 64 bit machines) and select 10bfilts.inf and click on open.

5. On the Update Driver Warning pop-up click on Yes.
6. On the Windows security pop up click on Install this driver software anyway.
7. On the System settings change pop up, click on Yes. this will reboot machine.

Once done, the keyboard drivers will be installed on the device.

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13. Connect the LCD Projector with Laptop/CPU

Aim: Connecting LCD Projector to Laptop/CPU
Requirements: computer, LCD projector.

Computer, LCD Projector Windows 11 Windows 10 with Dongle.

To project, connect PC using one of the cable connectors in the room, press the windows logo key + P, and then choose one of the four options:

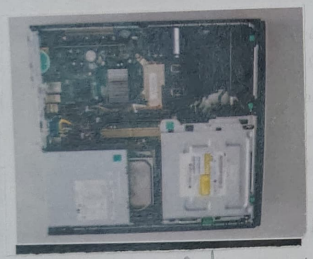
- PC screen only. Get everything on PC. (when connected to a wireless projector, this option changes to disconnect).
- Duplicate: To see the same things on both screens.
- Extend. To see everything across both screens, and can drag and move items between the two.
- Second screen only: To see everything on the connected screen. The other screen will be blank.

Then again, might not even need a cable. If PC and the projector both support Miracast, press the Windows logo key + K, choose a projector, and set.

Not sure if PC supports Miracast? Windows will let to know. Just press the Windows logo key + K to check.

Connect a laptop to a projector using an HDMI, DVI, VGA cable, or Bluetooth (if it's supported by both devices).

Memory installation supplies



open computer case

Ground yourself

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P4. Adding additional RAM to the system (expanding RAM size)

Aim: Expanding RAM size
Requirements: Computer, RAM

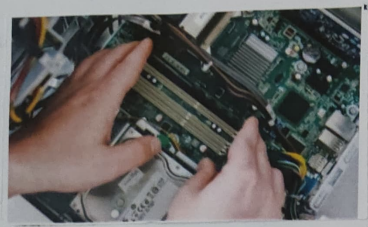
Upgrade Desktop Memory (RAM) - 10 easy steps to install memory in a desktop computer.
Installing memory can be done in a matter of minutes.

Step 1: Gathering Supplies
Then, you'll need the following items:
- Your desktop computer
- Desktop Memory
- Screwdriver
- owner's manual

Step 2: Shut Down Desktop Computer
Because files, documents, and data should unaffected during this process.

Step 3: Unplug the Power Cable
This includes any cables and accessories plugged into the computer

Step 4: Hold the Power button for five seconds.
This discharges any residental electricity still in the system.
Step 5: open the case.
For instructions about opening specific system, consult its manual. take pictures as you work through the



Computer Memory Removal

Memory banks

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process to see where cables or screws are attached to make it easier to put back together.

Step 6: Ground Yourself!
Touch an unpainted metal surface - this is an extra safeguard that protects computer memory and components from static damage during the installation process.

Step 7: Remove Existing Memory Modules
Press down on the clips on the sides of each module, the clip mechnarism will push the memory module up. Then pull the module completely out.

Step 8: Install Memory.
Holding the modules along the edges, align the notches on the module with the ridge in the slot, then apply even pressure and firmly press the module in. It usually takes about 30 pounds of pressure to full install the module.

Step 9: close the Computer Case
Step 10: Plug the power

Your Memory is now Installed.

←1

4.→

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15. Graphic card insertions.

Aim: Adding graphic Card

Requirements: Computer, Graphic Card.

Installing the new graphics card.

1. Power down the PC
2. Hit the switch on the back of the PC to turn off supply to the PSU.
3. Extract the side panel (using held on by two screws on the rear.
   - If already have a GPU installed, skip to step 7.
4. Remove the screws holding the GPU in on the rear bracket.
5. Unlock the PCI-e slot clip.
6. Remove the GPU by lightly pulling on the card.
7. Hover the new GPU over PCIe slot.
8. Push down on the GPU to slide the connector into the slot.
9. Ensure the secure lock clicks into place.
10. Screw the rear bracket down the secure the card.
11. Connect any required PSU cables
12. Reattach the side panel.

Now, all you need to do is to plug in the display connectors on the rear of the case, whether they're display port, HDMI, DVI or VGA. After that, hit the PSU power switch and boot up windows. If the PC does not turn on or no signals get sent to the monitor, we'll

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need to double check that all cables are connected correctly (both inside and on the rear of the PC), and the GPU is seated properly in the PCIe slot.

Installing required drivers.

Before the GPU can be used for intensive workloads like gaming, you need to get new drivers installed so windows and software can effectively communicate with the card. Hit the links below to download and install drivers for a new NVIDIA or AMD card.

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16 Assemble and Disassemble Desktop system

Aim: Assembling and Disassembling system

Requirements: Computer, Keyboard, Mouse, Monitor, Tool kit Screwdriver.

Part 1: How to assemble a CPU

This part is all about CPU assembling

Following are the steps to assemble CPU.

1. Take Inventory
2. Make space and time
3. Prepare your CPU case
4. Install motherboard
5. Install the processor
6. Install the processor heat sink
7. Install the RAM
8. Install SMPS
9. Install the HDD
10. Install CD/DVD drive
11. Connect Expansion Cards
12. Install SYS / Rear cooling fan
13. Bus cable connection
14. Power Cable connection
15. Front Panel connector connection

1. Take Inventory:

Before start, take inventory of computer parts. Make sure

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the following components and tools with us.

1. Case/Tower/Cabinet
2. Motherboard
3. Processor
4. Heatsink and CPU Fan
5. SMPS
6. Hard disk drive
7. CD/DVD drive
8. RAM
9. CMOS Battery
10. A good screwdriver sets.

2. Make Space, Make time:

work on a flat, stable table top surface or bare floor, where to lay out all of the items, to begin with assemble.

3. Prepare CPU Cabinet:

Remove the case cover from the CPU cabinet.
Check screw brass standoffs are perfectly placed or not. If it is not in a proper position, in that case need to position them accurately. (always check the manual and follow the instruction).

4. Install the Motherboard

4 →

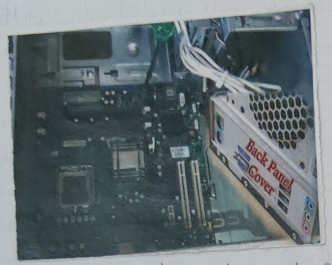

Fig: Motherboard and Bankpanel cover

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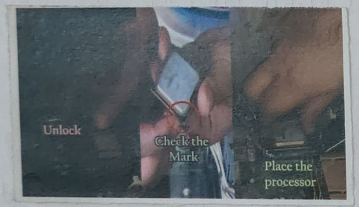

Fig: CPU placement

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Take great care, especially when installing the motherboard.

1. Next, review the motherboard handbook, to make sure that motherboard layout and understand which socket is which.
2. Check the layout of the sockets on the motherboard and confirm that the ports on motherboard's back panel match the holes on the case's Input/output (I/O) shield installed in case.
3. Carefully position the motherboard on Top of the brass standoffs. After that line up all the holes, use the screws that accompanied the case to fasten down the motherboard.
4. Dont forget to place the CMOS in the proper position.

5. Install the Processor (CPU):

1. Use the unlocking mechanism to open the CPU socket which is usually a lever.
2. Carefully line up the pins and place the chip in its socket; it will fit only when oriented correctly.
3. Align with the triangular symbol with the Processor and socket key marks, as shown in the fig
4. Lower the lever to lock the CPU into place.

6. Install the CPU Heat Sink:

If bought an OEM CPU and a seperate heat sink,

7 →

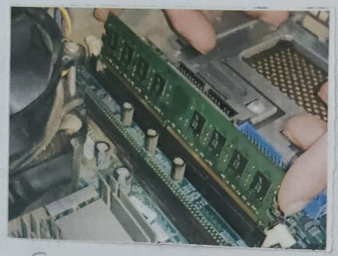

Fig: Install RAM

8 →

Fig: Install Power supply unit (SMPs)

9 →

Fig: Install drivers

Date

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then you need to spread a thin layer of the thermal grease over the chip.

1. Attach the clip that holds the heat sink in place, keeping in mind that it may require a fair amount of force.

2. Plug the CPU fan's power connector into the proper connector on the motherboard.

7. Install Ram Memory:

1. Unlock the two tabs from both ends of the RAM slot.

3. To install the RAM, insert them into the proper sockets and push down firmly but evenly until the clips on both sides of the socket pop into place.

8. Install the power supply unit (SMPs):

1. Place the SMPS inside the CPU cabinet in the proper position.

2. Final steps, to install SMPS, need to tighten the screw to secure the SMPs to the case.

11 →

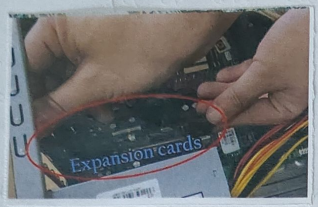

Fig: Install Expansion Cards

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9. To install HDD:

See a 3.5 inch bay inside the CPU cabinet. If its unable to find it.

Place the HDD inside the bay properly and tighten the screw.

10. To install CD/DVD:

See a 5.25 inch bay inside the CPU cabinet.

Place the CD/DVD inside the CPU cabinet to align with the 5.25 inch bay. And finally, need to tighten all the screws to hold firmly.

11. Install Expansion Cards:

Expansion cards help to increase the functionality of computer. Place Expansion cards on the motherboard.

PCI compatible expansion cards can place on the PCI slots of the Motherboard.

PCI-e compatible expansion cards can place on the PCI-e slots of the Motherboard.

Video cards or graphics cards can place on the AGP slot of the Motherboard.

12 →

Cooling Fans

Fig: Cooling Fans

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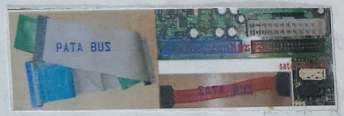

Sata-Data bus and Connector

14 →

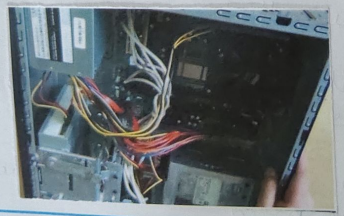

Fig: Cable Connection

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12. Install SYS/REAR Cooling fan:

Find the location where you can place the SYS/Rear cooling Fan.

13. BUS Cable Connection:

If the motherboard has a SATA BUS connector, then need to use SATA cables and if Motherboard has a data bus connector, then use Data Cable.

In general two bus cables need to connect inside the CPU. First, BUS cable connects the HDD and motherboard. And the second Bus cable connects the CD/DVD drive and Motherboard.

14. Power Cable Connection.

This one is the final step of assembling a CPU. You need to provide power to the different parts of the CPU. Plug the ATX power connector from power supply into the matching part on Motherboard.

15. Front Panel connector Connection:

First, Attach each of the tiny leads from the power and reset switches. After that, the hard-disk activity lights, the PC speaker, and any front-panel USB to the corresponding pin on motherboard.

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To boot a computer, need hardware and software. Till now understood to assemble a computer. If want to work on that computer, you need to install an operating system.

What is Disassembling A PC?

Disassembling a PC means disconnecting the different components of a PC.

Steps for Disassembling a PC

1. unplugged the PC power supply to the PC from the wall socket.
2. Remove the corner or chassis or case
3. unplugged bus cables & ATX power cables
4. Remove Adapter cards if any
5. Now Remove the processor and the heatsink & fan
6. Remove hard disk and CD/DVD drives.
7. Next, remove the Memory Modules

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8. Remove the power supply (SMPs)

9. Finally, Remove the Motherboard.

1. UNPLUGGED the AC POWER SUPPLY to the PC from the Wall socket

First disconnect all the power supply connected to computer system before starting to remove parts.

2. Remove the case covering

Loose the screws and remove the case covering to access the inside parts of the CPU cabinet case

3. unplugged bus cables and ATX power cables

Disconnect all the cables one by one inside the CPU case. First, disconnect ATX power cables from the motherboard. After that disconnect power supply cables, bus cables from the HDD/SSD & motherboard.

4. Remove Adapter cards if any

If any adapter is connected then, disconnect the card from the Motherboard.

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5. Remove the processor and the heatsink and fan

The CPU fan and the heatsink attach together. If it is seperated in that case, need to remove the fan first after that, remove the CPU heatsink.

In the final step, unlock the processor socket & remove the processor from the motherboard carfully.

6. Remove Hard disk and CD/DVD Drives.

Remove the hard disk drive or SSD from the motherboard also remove the CD/DVD drives from the CPU case.

7. Remove Memory Modules.

In this process, remove the RAM from the motherboard. First, unlock the RAM from both ends and pull the RAM carfully.

8. Remove the Power Supply unit (PSU)

SMPS supplies power to the various parts of the computer system, need to remove the SMPS from the CPU cabinet case.

9. Remove the Motherboard

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The final step of the PC disassemble process is to remove the motherboard from the CPU cabinet case.

Note: Remember, bolts or screws are the very essential things. They help to make rigid, all the parts used inside the computer. To remove any part from the computer system Mostly, need to take out bolts first. Here in PC disassemble steps....