CORE MODULE 1

Fundamentals of Computer Hardware & Networking

Skill India
कौशल भारत. कुशल भारत.

Assembling and Disassembling PC

Introduction

Computer Assembly Is An Essential Job Of A Computer Installation Technician.

Computer Assembly Is A Process In Which All The Internal Components Required For The Computer System Are Fitted So As To Make The Computer Functional. There Is A Proper Sequence Of Attachment Of Each And Every Component Into The Computer System.

Computer Assembly

As We Know, Computer Assembly Is A Systematic Process. First, Arrange The Computer Parts.

The Sequence For Computer Assembly

1. Open The Case
2. Install The Power Supply
3. Attach The Components To The Motherboard
4. Install The Motherboard
5. Install Internal Drives
6. Connect All Internal Cables
7. Install Motherboard Power Connections
8. Connect External Cables To The Computer
9. Boot The Computer For The First Time.

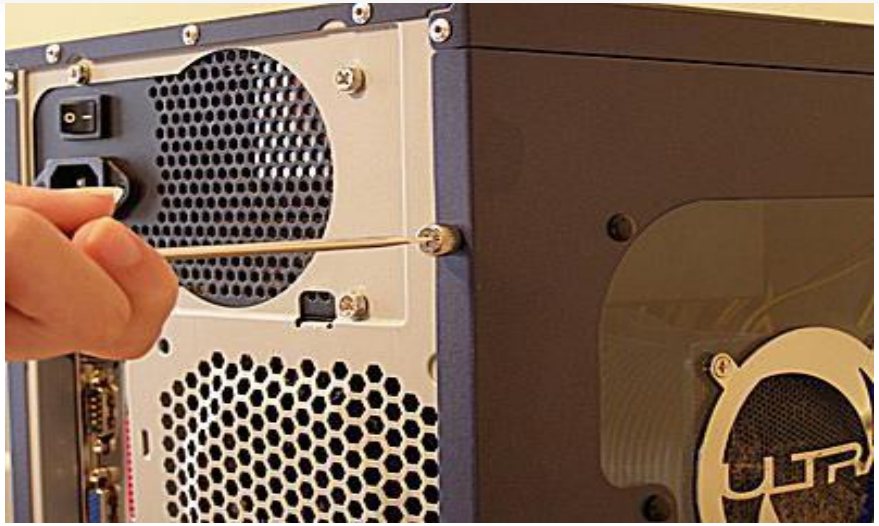
Material Required

- ✓ Computer Case, With Power Supply Installed
- ✓ Motherboard
- ✓ CPU
- ✓ Heat Sink/Fan Assembly
- ✓ Thermal Compound
- ✓ RAM Module(s)
- ✓ Motherboard Standoffs And Screws
- ✓ Anti-static Wrist Strap And Anti-static Mat
- ✓ Tool Kit

Procedure for Computer Assembling

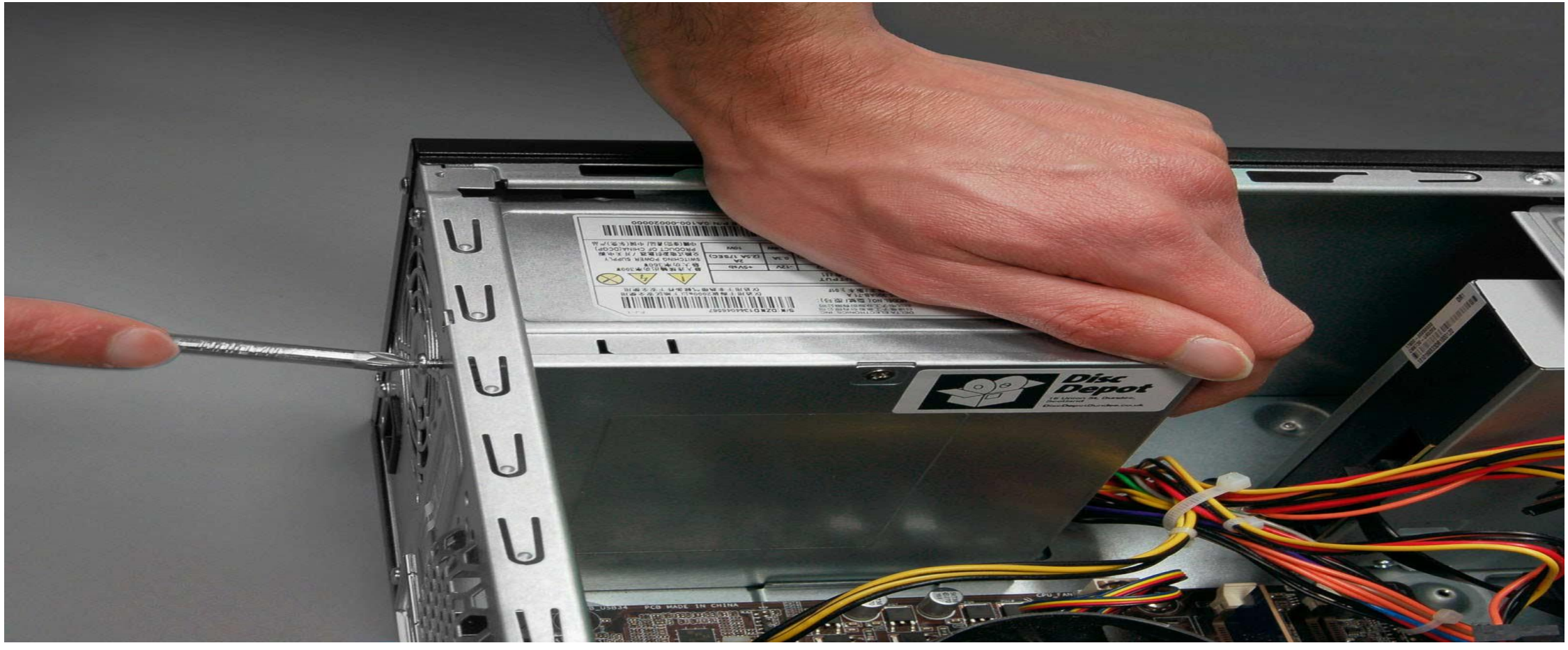
Step 1: Open The Case

The First Step In Assembling A Computer Is To Open The Computer Case.
To Open The Case, First Remove The Screws Of The Left Side Cover And Slide The Side Cover.



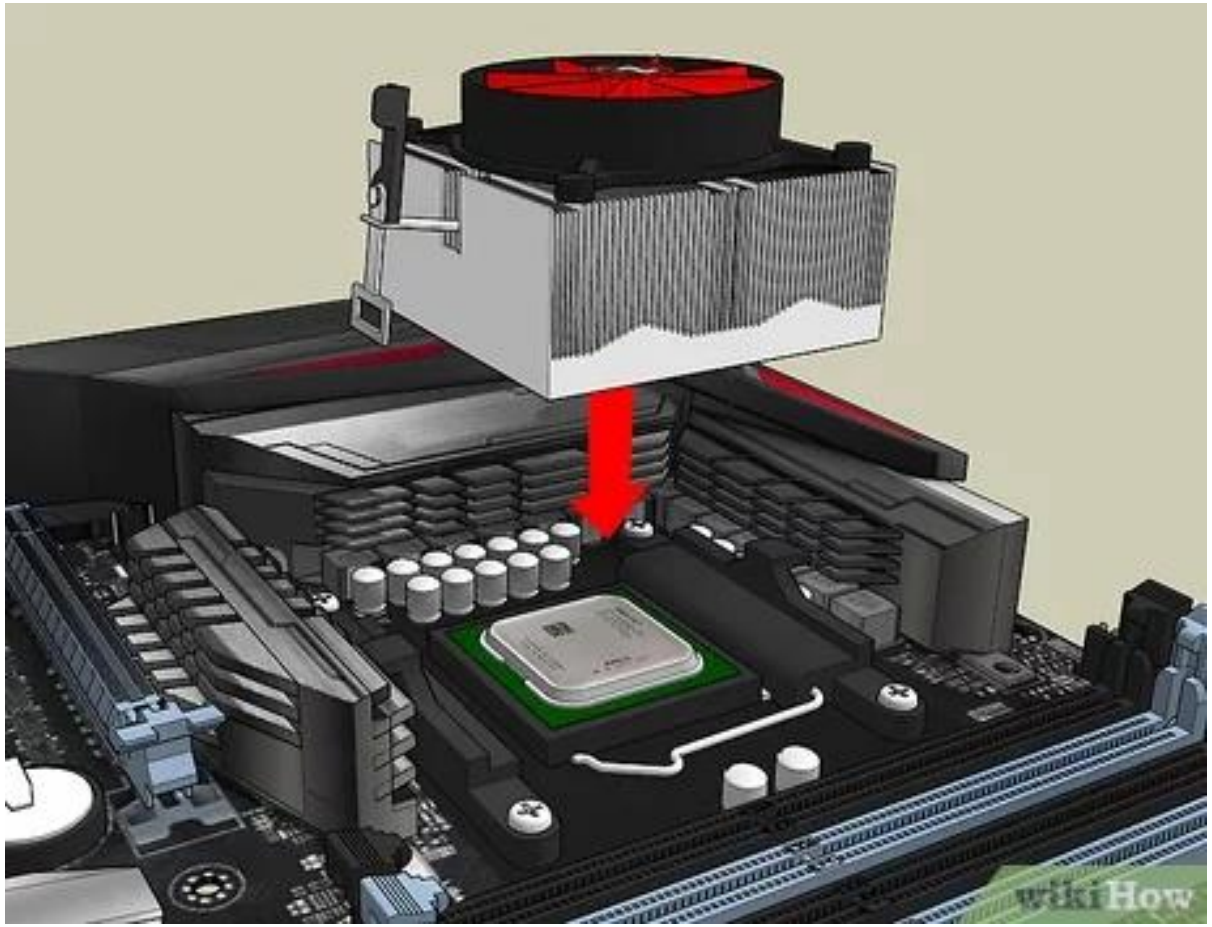
Step 2: Install The Power Supply

The Next Step Is To Install A Power Supply.
There Are Usually Four Screws That Attach
The Power Supply To The Case.



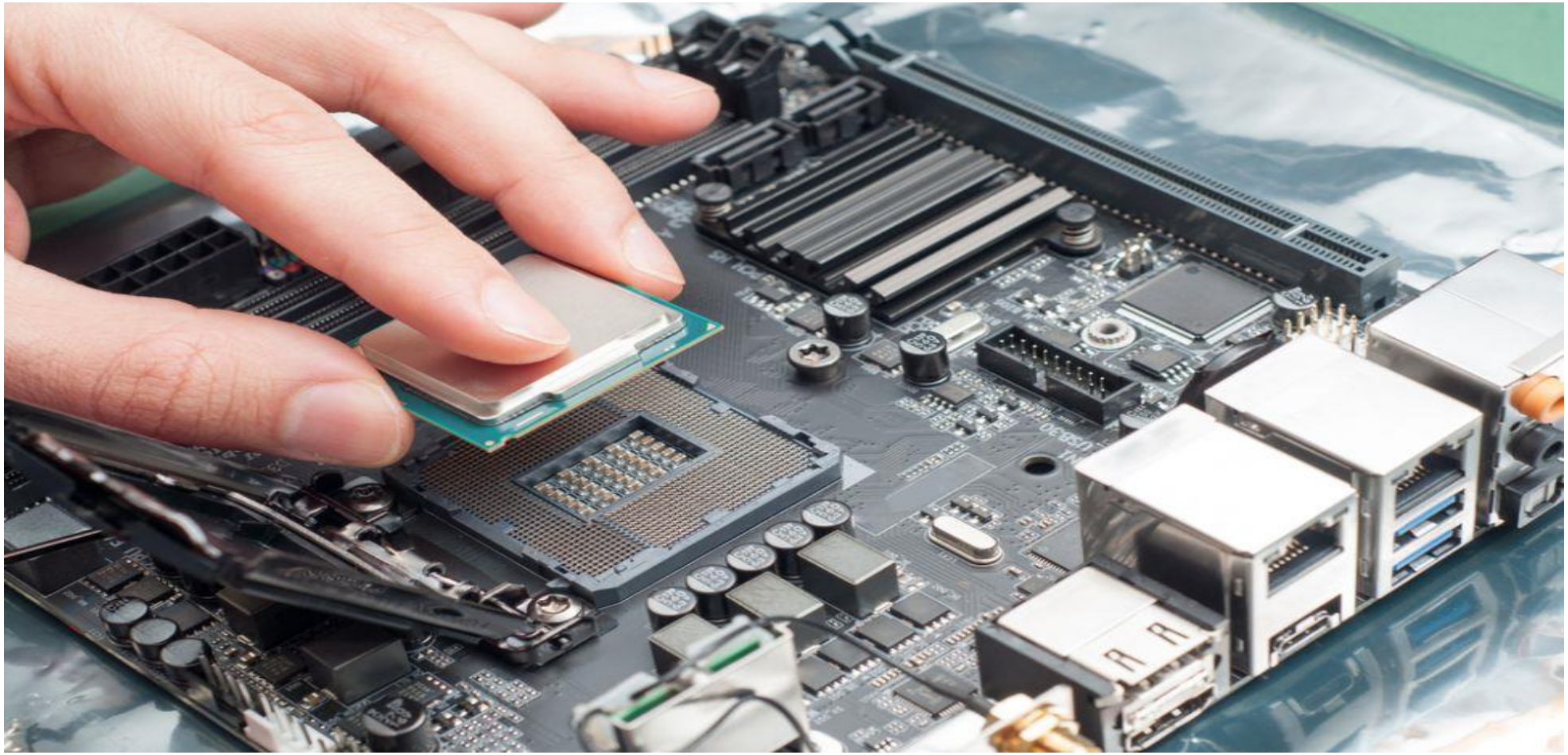
Step 3: Attach The Components To Motherboard

The Motherboard Has To Be Prepared Before Its Installation. To Prepare The Motherboard, You First Need To Install The CPU, Then The Heat Sink On The CPU And CPU Fan.



CPU

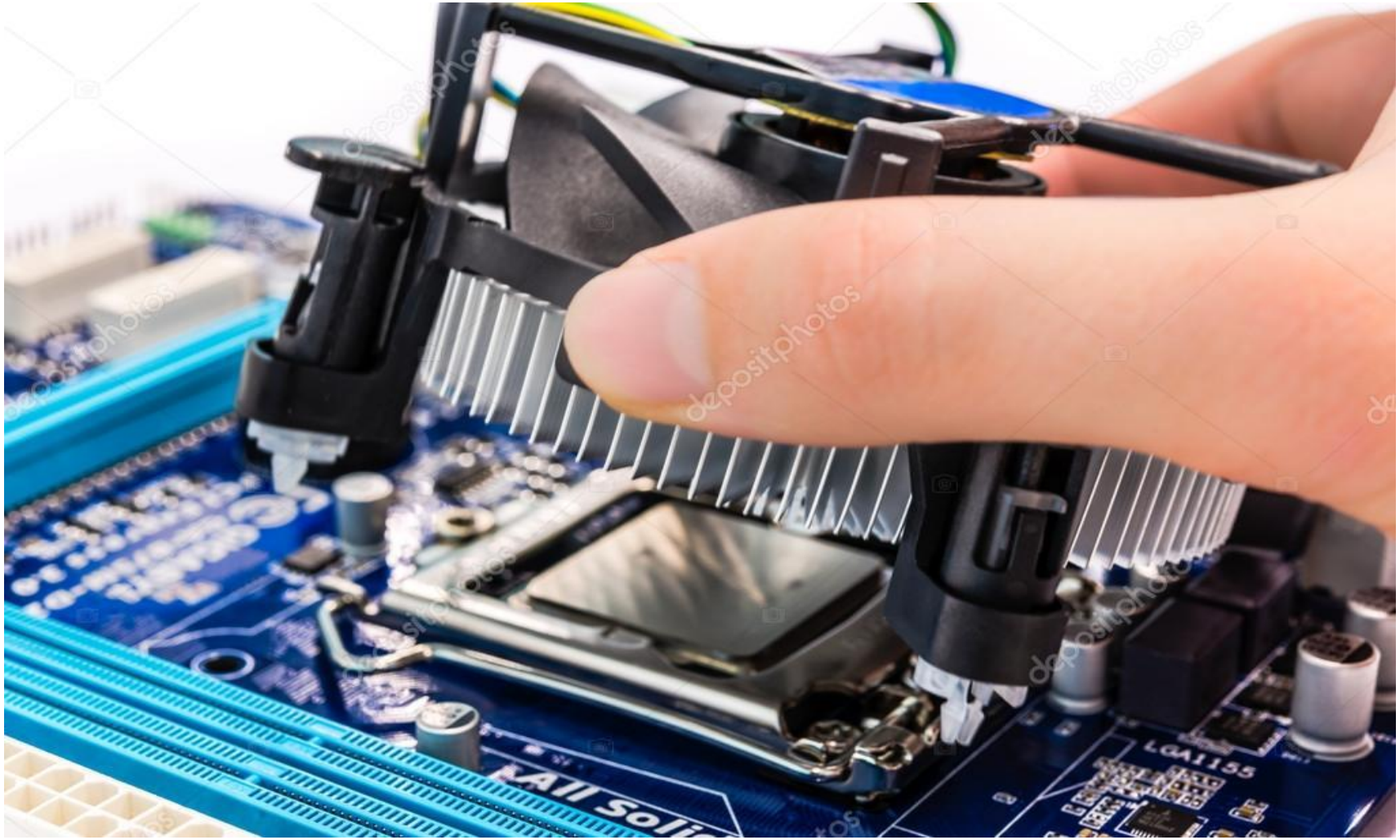
A CPU Socket Uses A Series Of Pins To Connect A CPU's Processor To The Pc's **Motherboard**. If A CPU Is Connected Via A CPU Socket.



Heat sink and fan assembly

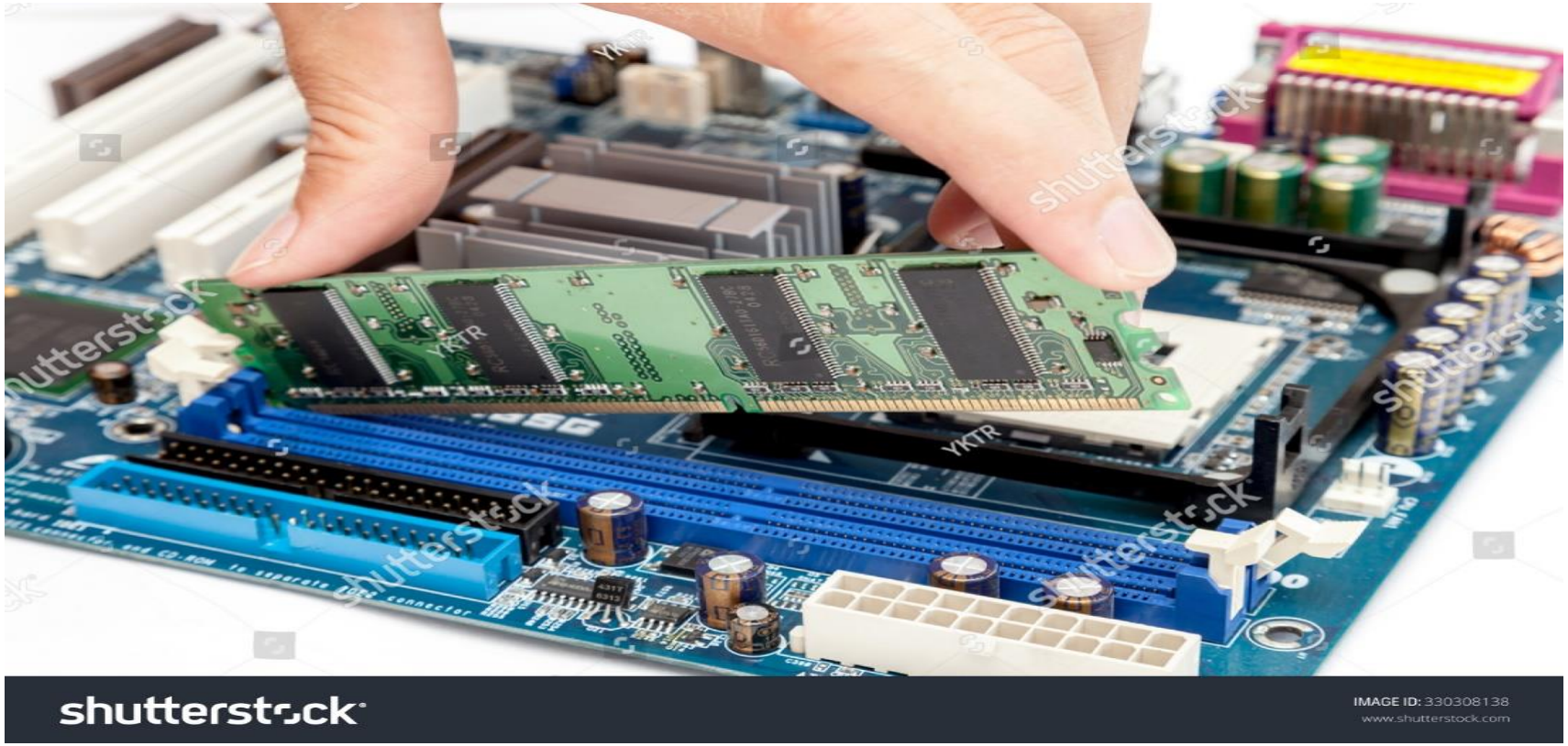
A Heat Sink And Fan (HSF) Is An Active Cooling Solution Used To Cool Down Integrated Circuits In Computer Systems, Commonly The Central Processing Unit (CPU).

Connect The Assembly Power Cable To The CPU Fan Connector On The Motherboard.



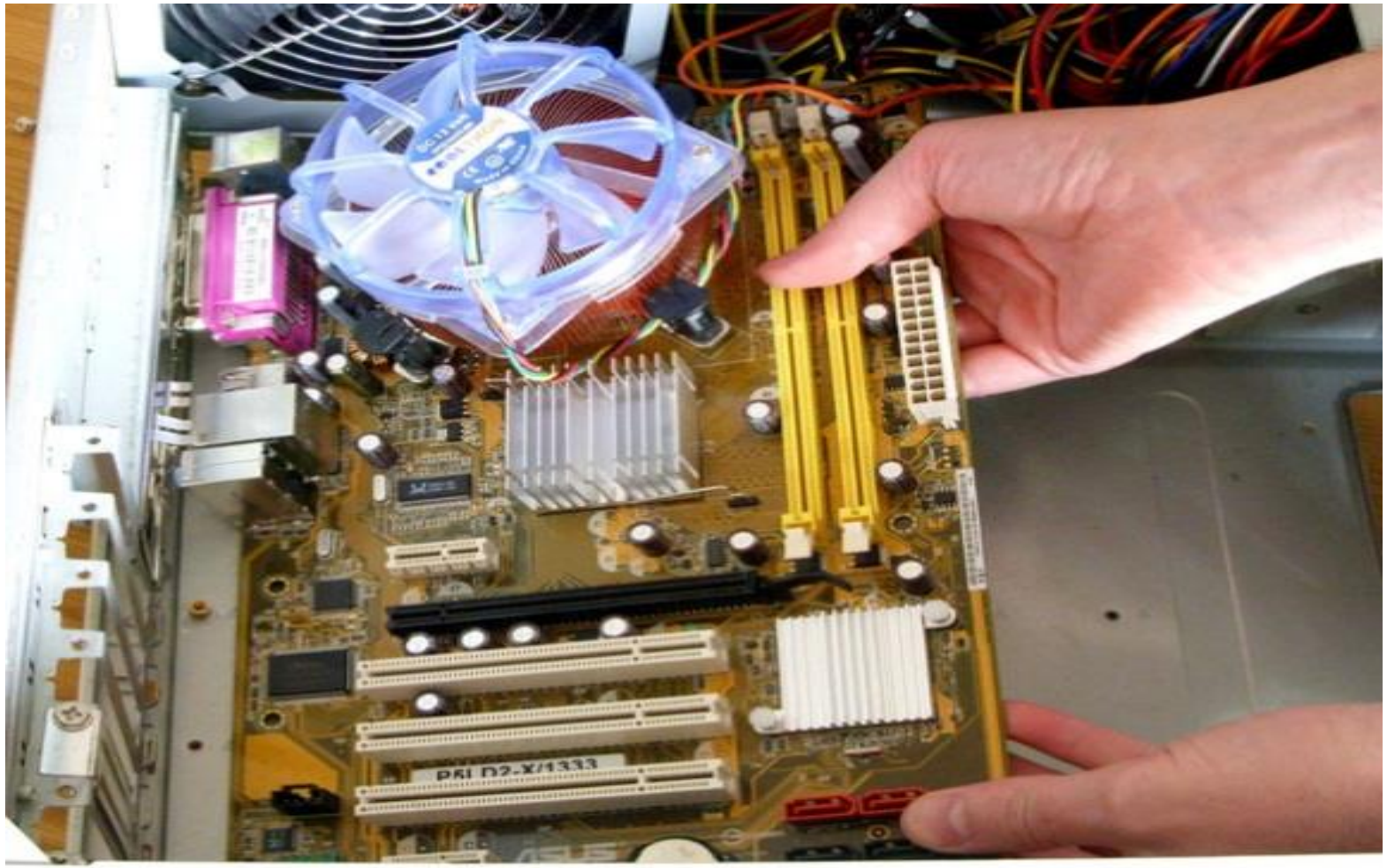
Installation of RAM

To Install The RAM First On The Motherboard And Then Fix The Motherboard In The Case. To Install RAM, First Ensure Its Compatibility With The Motherboard.



Step 4: Install motherboard

After Preparing The Motherboard, You Can Install In The Computer Case.



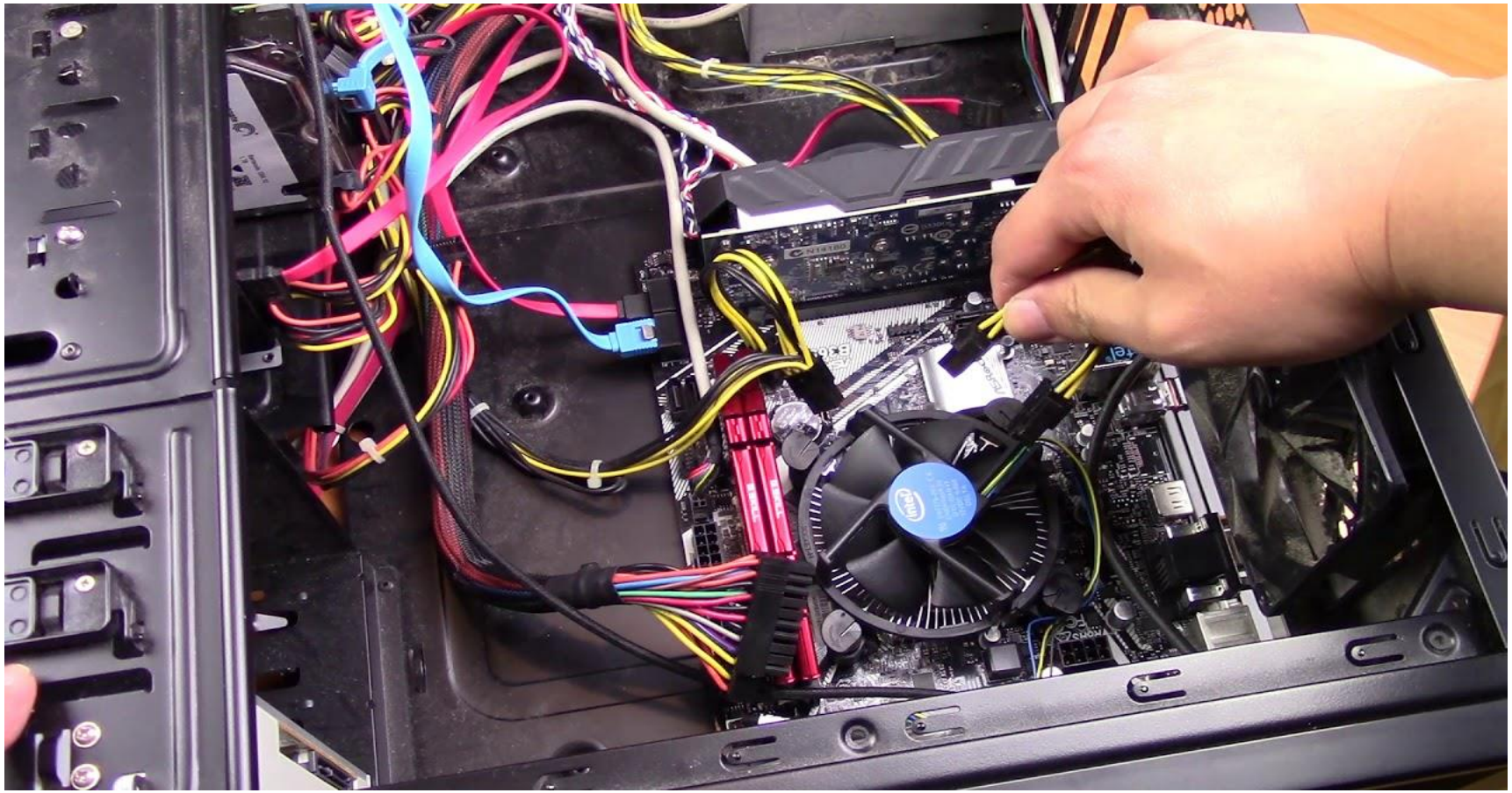
Step 5: Install internal drives

Hard drive

The Hard Drive Is The Device Which Stores All The Data.
Connect The Power Cable Coming From The SMPS To The Power Socket Of Hard Disk Drive.
Connect SATA Data Cable From Hard Disk Drive Socket To The Motherboard Socket

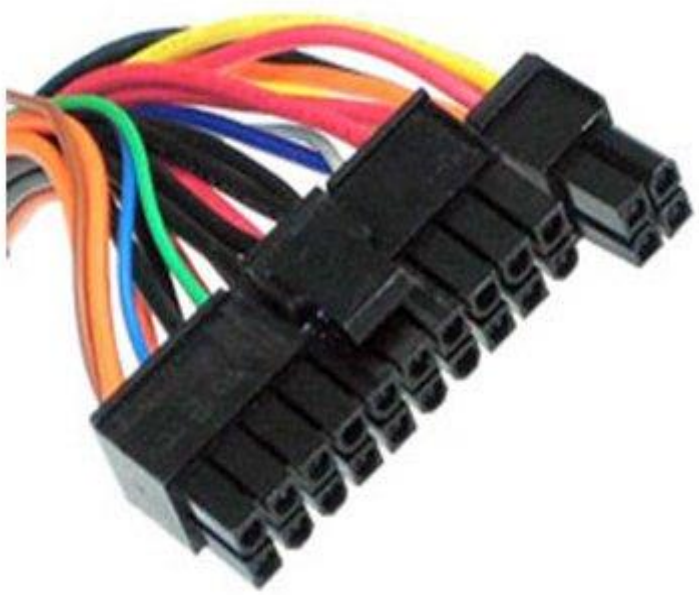
Step 6: Connect all internal cables

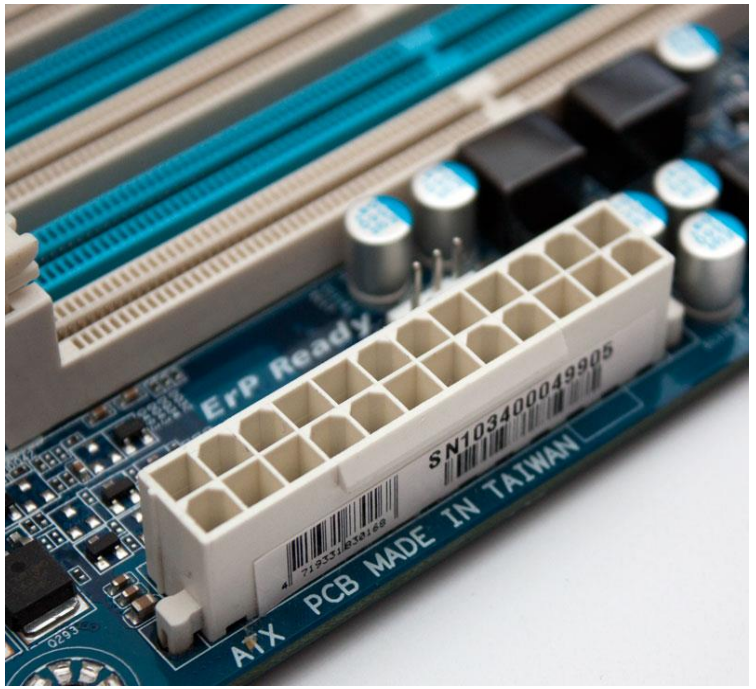
Power Cables Are Used To Distribute Electricity From The Power Supply To The Motherboard And Other Components. Data Cables Transmit Data Between The Motherboard And Storage Devices, Such As Hard Drives.

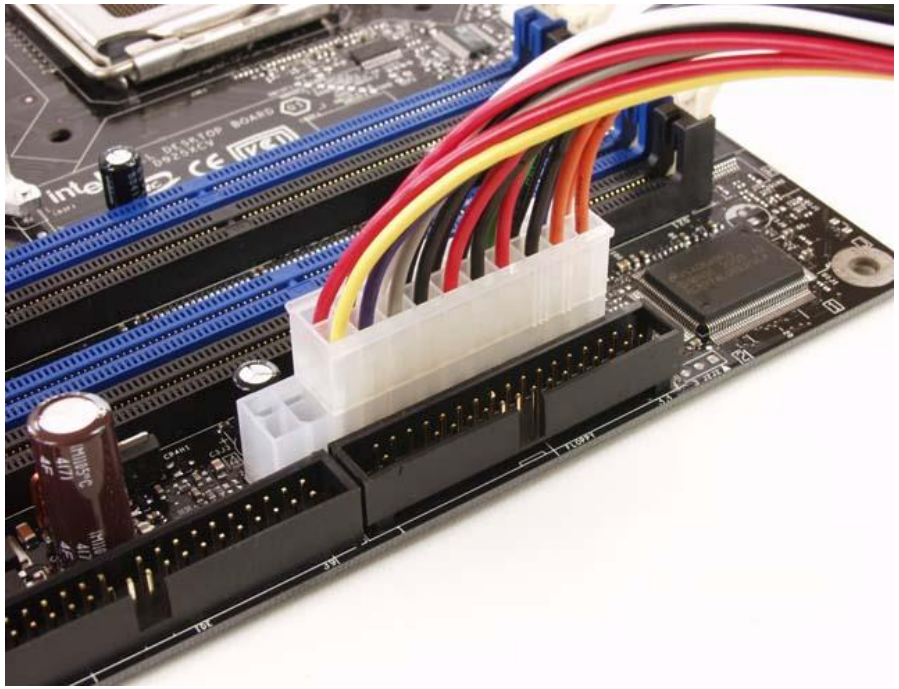


Step 7: Install motherboard power connections

The Advanced Technology Extended (ATX) Main Power Connector
Will Have Either 20 Or 24 Pins.



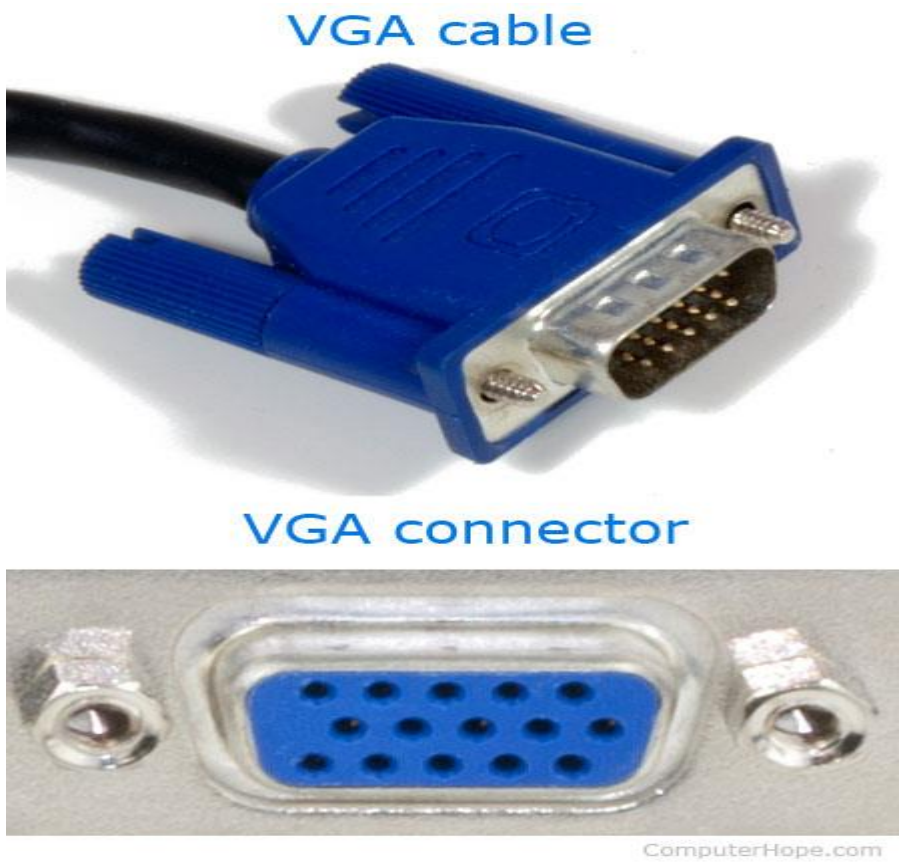




Step 8: Connect external cables to the computer

Connecting Monitor

The VGA Cable Is Used To Connect To Monitor.



Step 8: Connect external cables to the computer

Connecting Keyboard

If It Uses A USB Connector, Plug It Into Any Of
The USB Ports On The Back Of The Computer.

Step 8: Connect external cables to the computer

Connecting Headphones Or Speakers, And Microphone

Connect The External Speakers Or Headphones, To Computer's Audio Port (Either On The Front Or Back Of The Computer Case).

Step 8: Connect external cables to the computer

Connect The Computer To A Power Supply

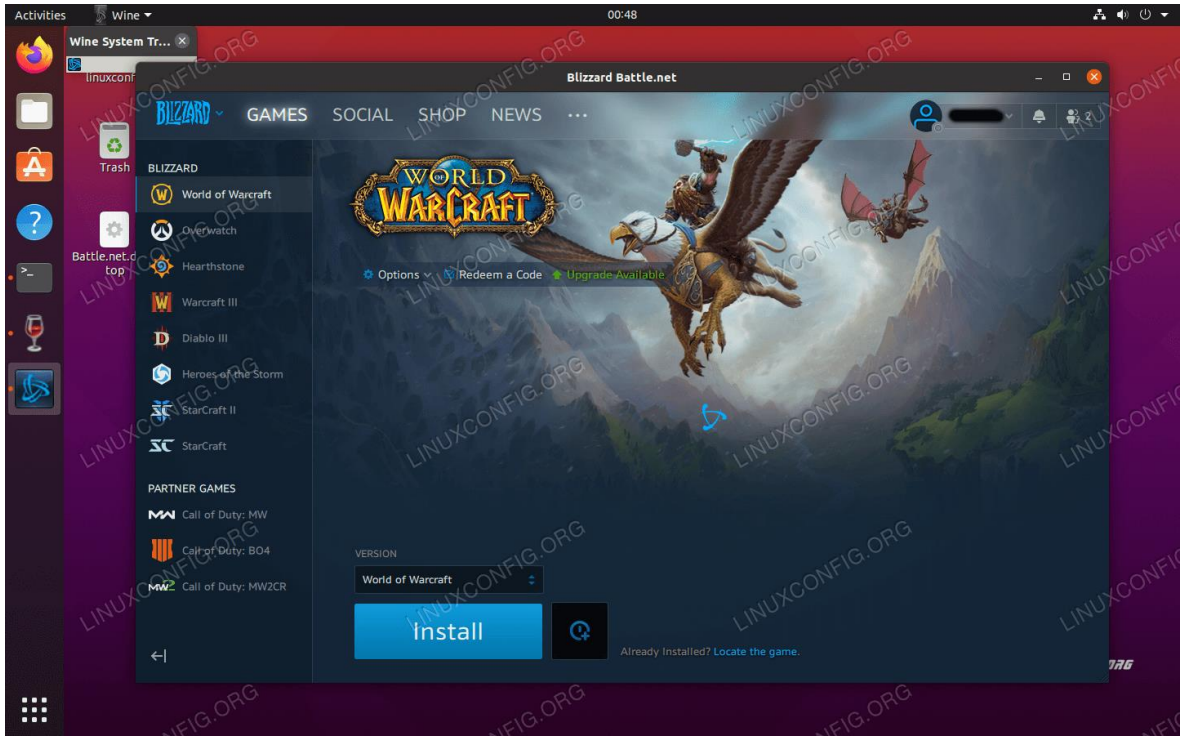
Power Supply Cable Connect Into The Back Of The Computer Case.

Step 8: Connect external cables to the computer

Connecting Printer, Scanner, Webcam

Step 9: Starting the computer

Always Remember That The First Step Is To Push Power Button Of The CPU Than The Monitor's. An Operating System Or System Software Like Window Or Linux Will Start Loading, Now Your Computer Is Ready To Use.



Procedure for Computer Dissembling

Disassembly Is The Process Of Breaking Down A Device Into Separate Parts.

Material Required

- ✓ One Working PC
- ✓ An Anti-static Wrist Strap
- ✓ An Anti-static Mat
- ✓ Anti-static Bags Of Various Sizes
- ✓ Technician's Toolkit
- ✓ A Plastic Cup Or Box To Organize Screws, Nuts, And Bolts

Procedure for Computer Dissembling

Step 1: Unplugging

- ❑ Unplug The Power Cord From The PC
- ❑ Unplug All The Peripherals Attached To The Computer, Such As The Keyboard, Mouse, Monitor, Headphones.

Procedure for Computer Dissembling

Step 2: Open The Case

First Remove The Screws Of The Left Side Cover And Slide The Side Cover.

Procedure for Computer Dissembling

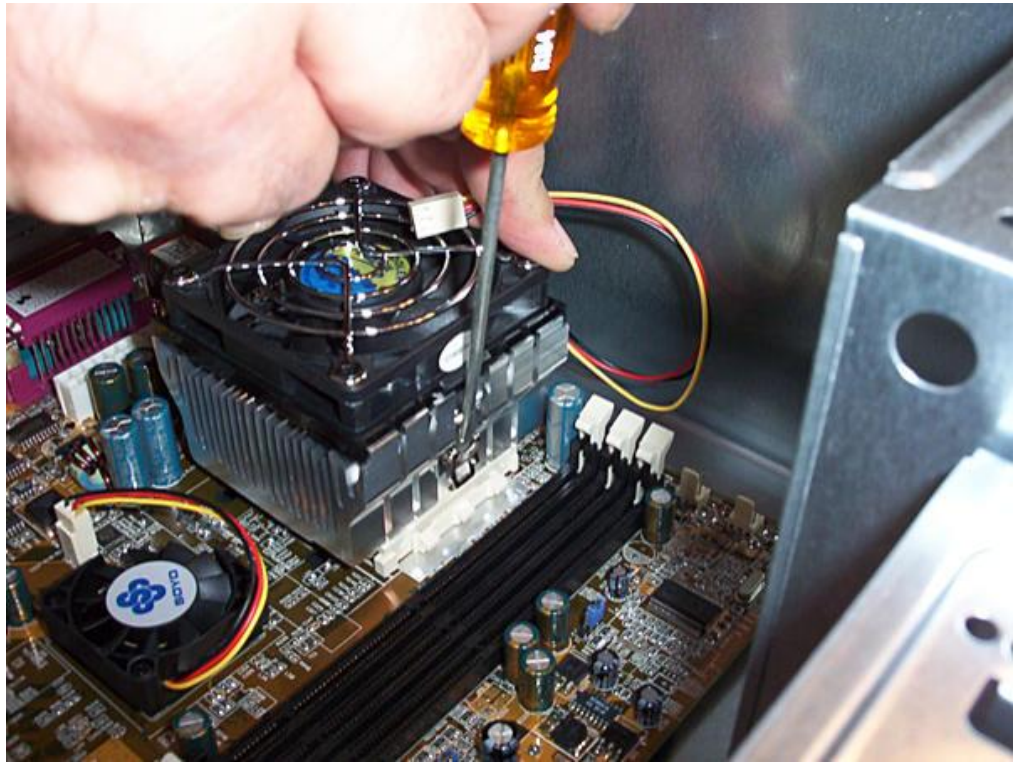
Step 3: Disconnect All The Connectors

Disconnect All The Connectors Connected To The Motherboard. These Include SATA Power Cable And Data Cable Of HDD As Well As SATA Cable Of Optical Drive

Procedure for Computer Dissembling

Step 4: Remove The Fan

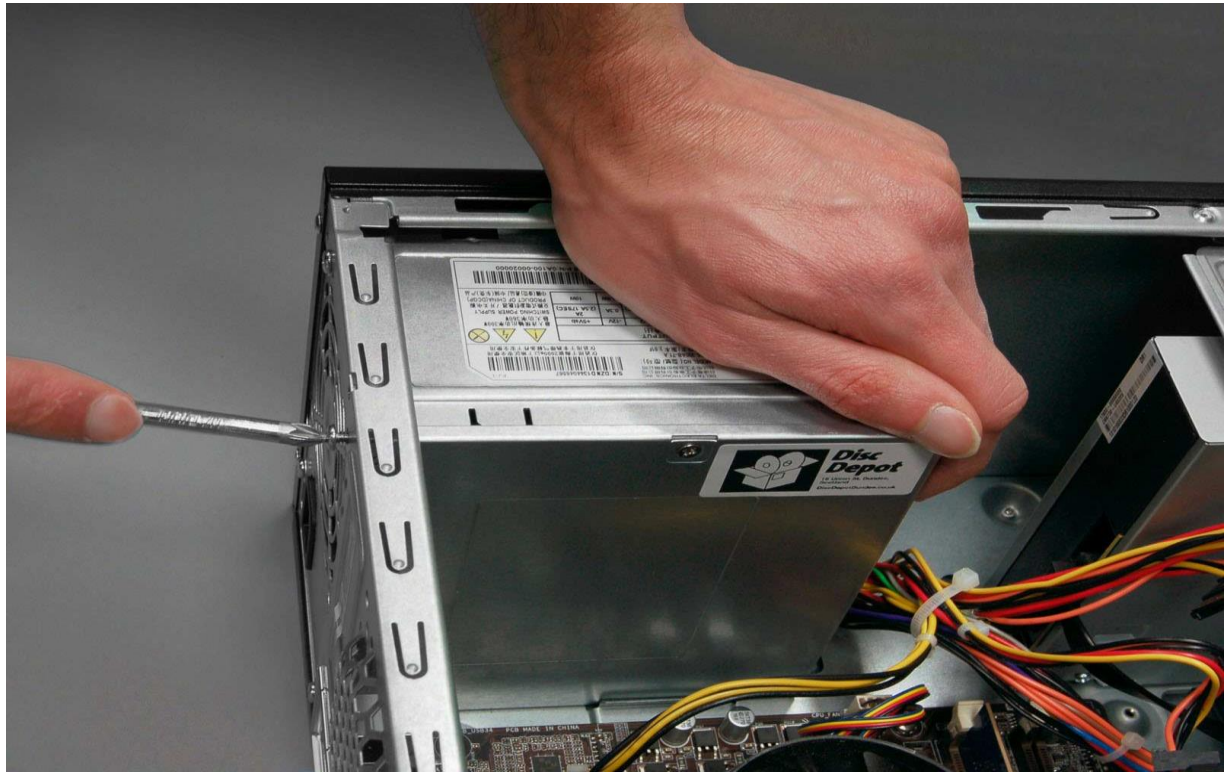
Remove The Fan Now.

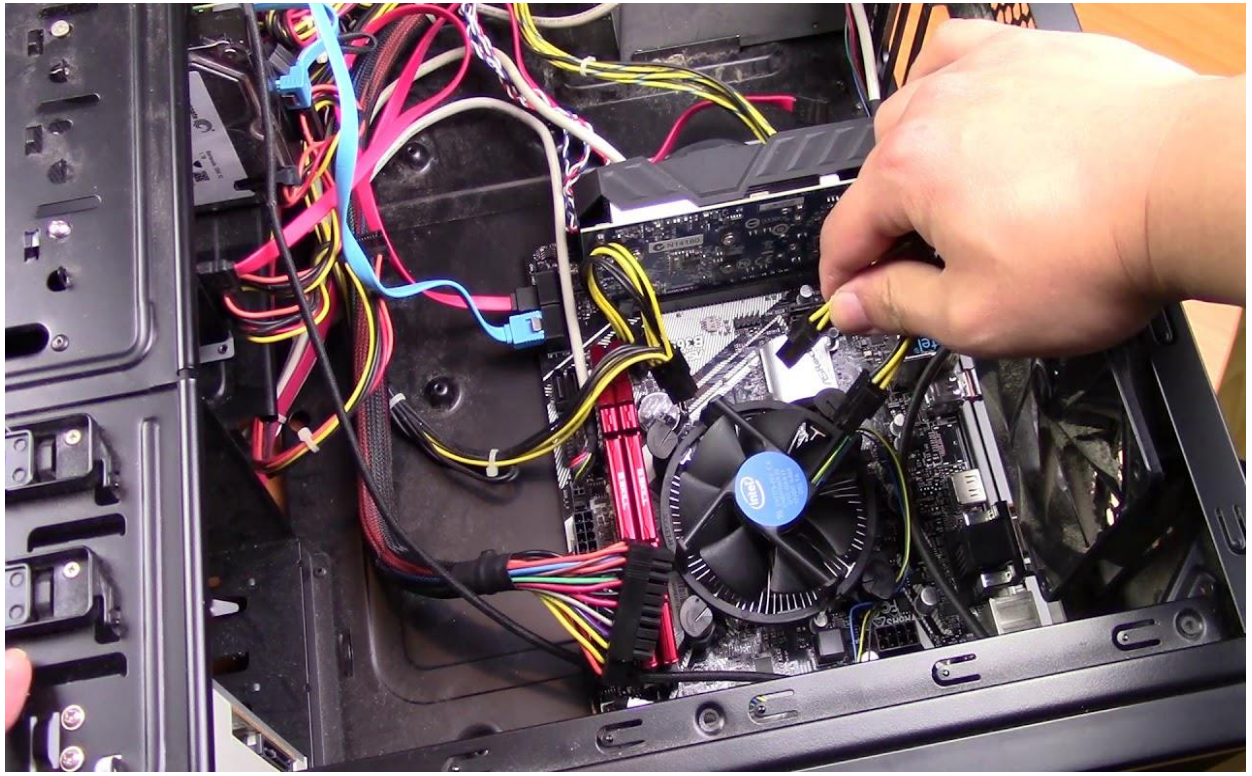


Procedure for Computer Dissembling

Step 5: Remove The Power Supply

Remove The Power Supply Is Connected To The Motherboard By A 20-pin Connector And 4-pin Connector.

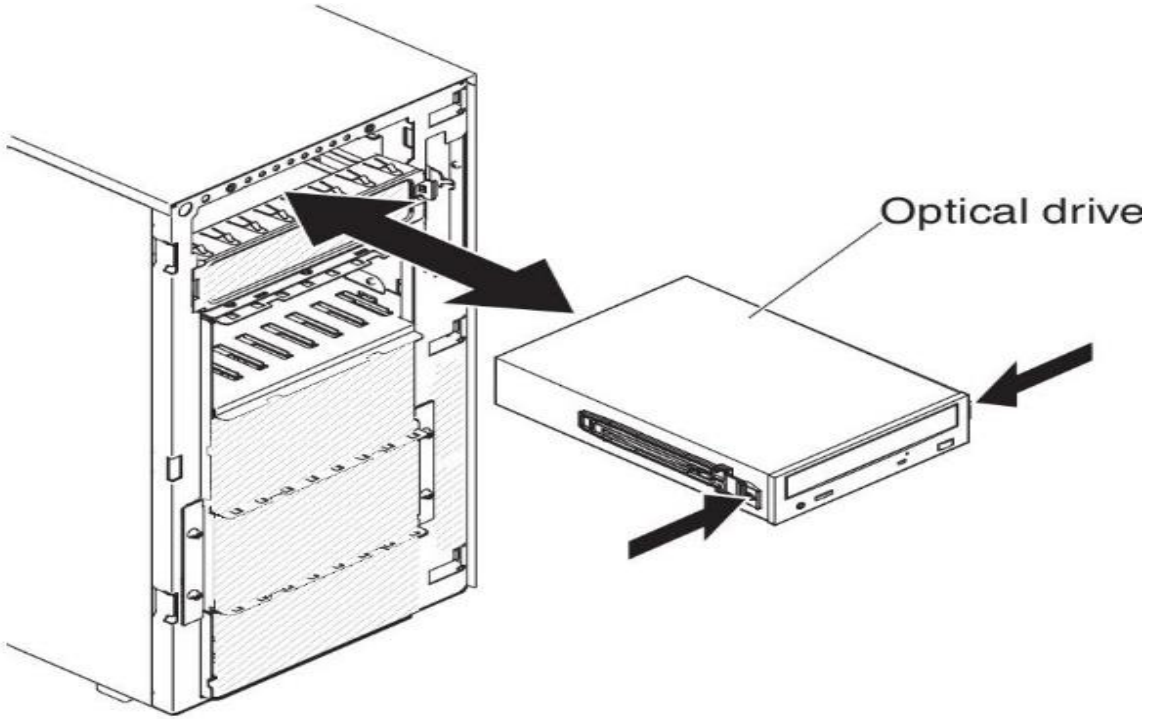




Procedure for Computer Dissembling

Step 6: Removing HDD And Optical Drive

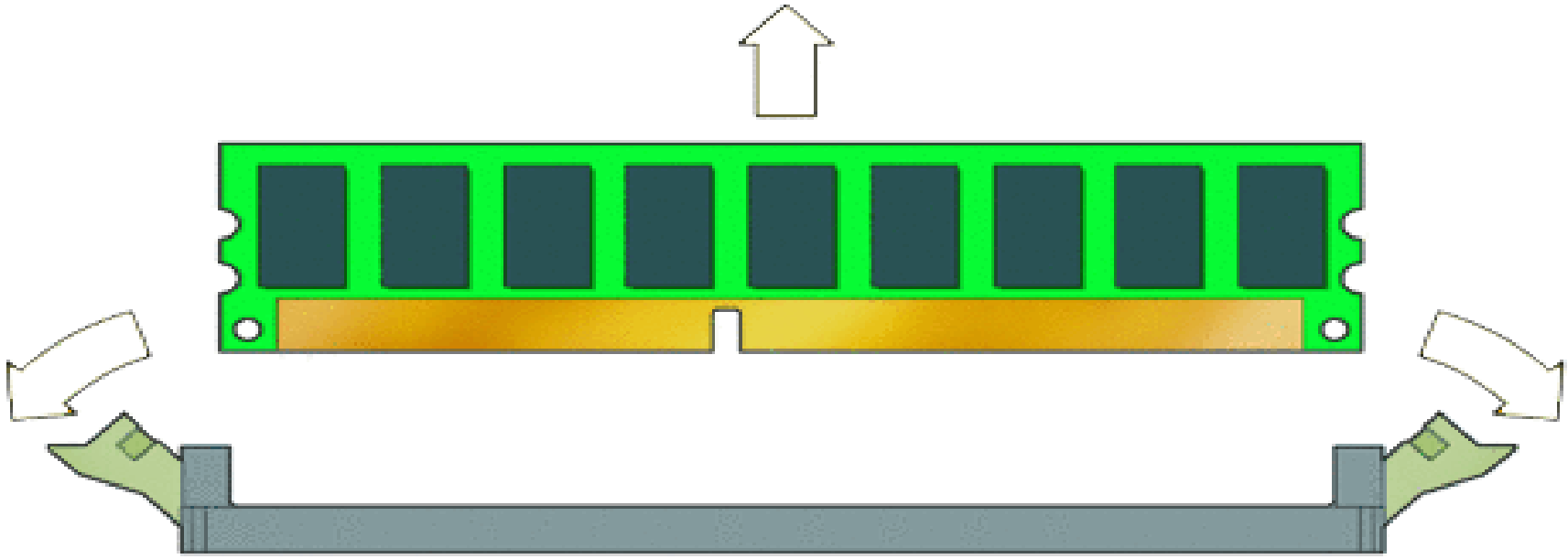
Remove The SATA Cable Connecting To The HDD
And Optical Drive In Motherboard.



Procedure for Computer Dissembling

Step 7: Remove RAM (Random Access Memory) Modules

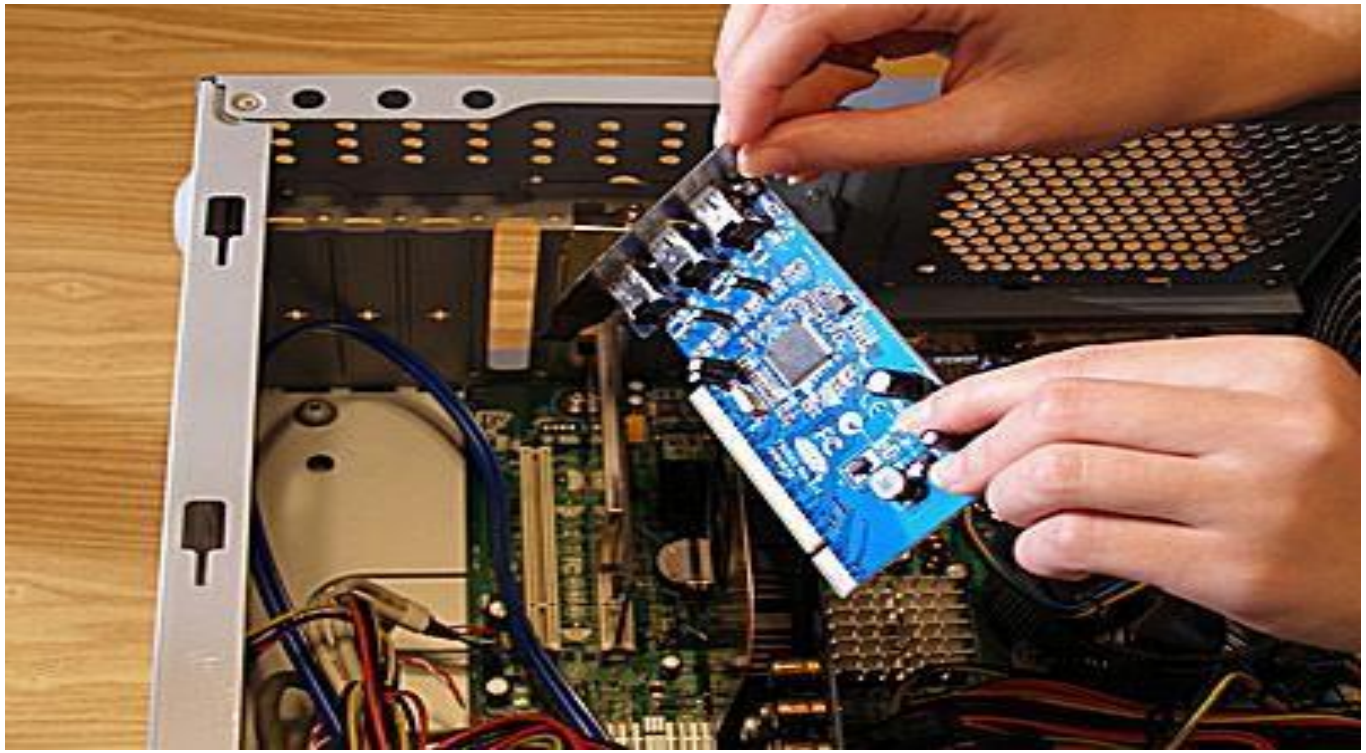
To Remove The RAM



Procedure for Computer Dissembling

Step 8: Remove Expansion Cards

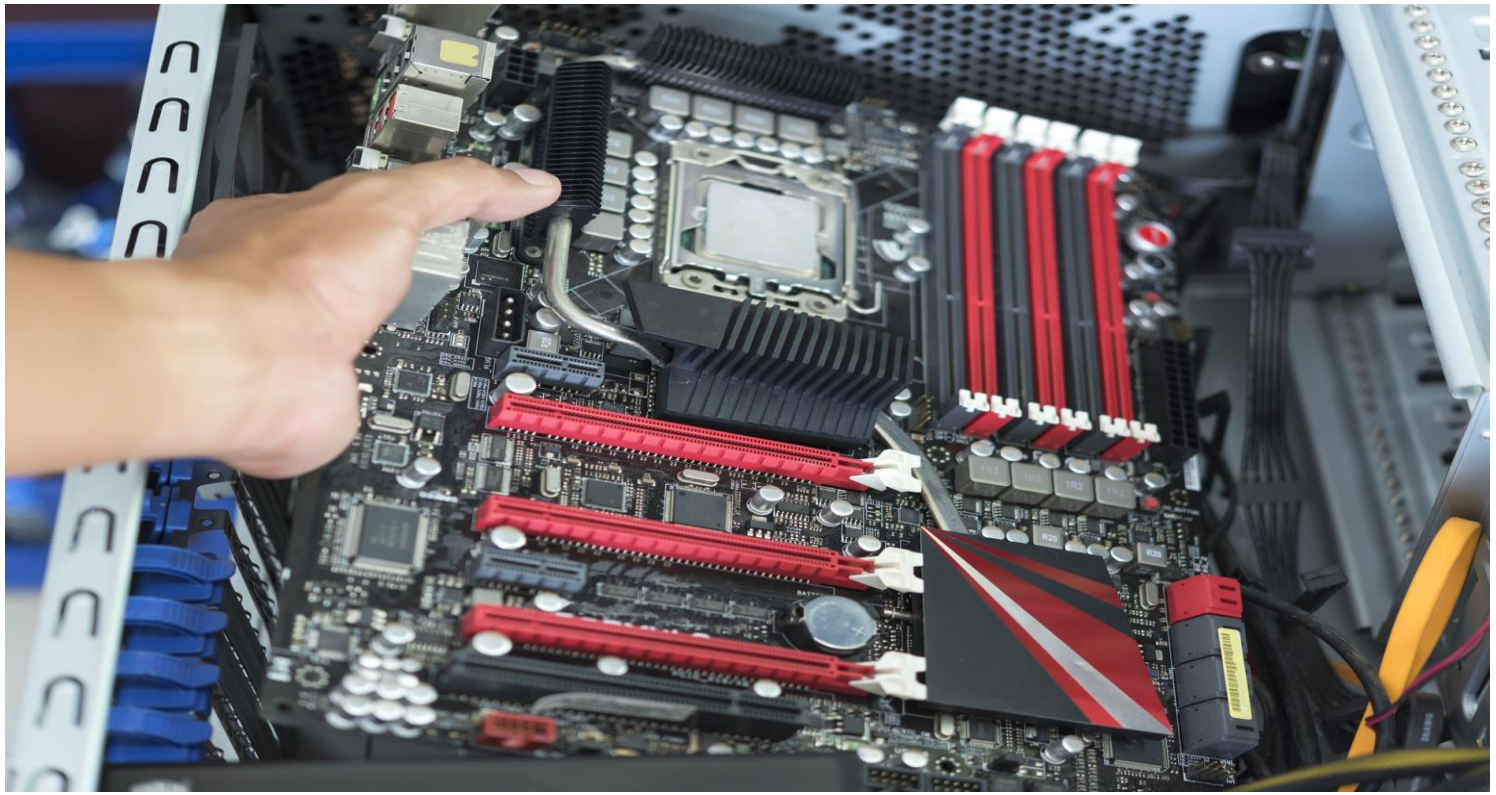
To Remove The Expansion Cards, Disconnect The Cables Attached To It.



Procedure for Computer Dissembling

Step 9: Remove Motherboard

To Remove The Motherboard, Disconnect All The Cables From The Motherboard.



Procedure for Computer Dissembling

Step 10: Reassemble The Components

- ✓ Identify Every Component And Take Its Photograph.
- ✓ After Identification Of Each Component, Put All The Components Back In Their Place And Ensure That All Cables And Wires Are Connected At The Right Place To Avoid Further Troubleshooting.


THANK
YOU!