

U4L102

# Defects in Computer System and Network

# Roll Call



An illustration of a man with glasses and a green shirt sitting on a chair, reading a book. The background features a blurred image of a modern building and various data visualization elements like bar charts, a pie chart, and a line graph. A large green arrow points from the left towards the right, containing the text 'Recap of the Lesson'. There are also some decorative elements like a plus sign and a minus sign.

# Recap of the Lesson



# What are Computer Defects?



# At the end of lesson, you are able to:

1. Replace defective components or parts without damage to the surrounding environment or services
2. Install correct components or parts without damage to the surrounding environment or services
3. Make the necessary adjustments in accordance with established procedures
4. Respond to unplanned events or conditions in accordance with established procedures





**Which of the following  
you experience most?**

**Blue  
Screen**

**Blank  
Monitor**

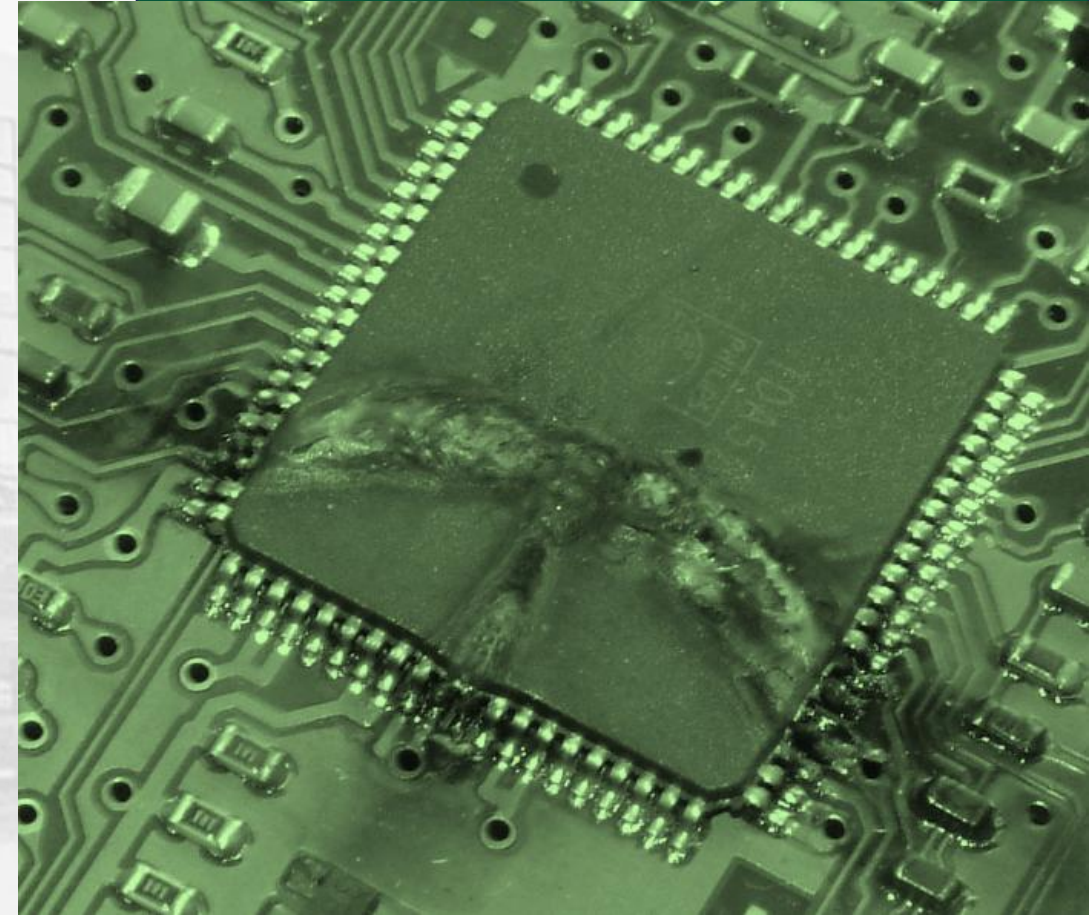
**Mouse  
Problem**

**Keyboard  
Problem**

**Weak  
WIFI  
Problem**

# Computer Networks

Computer networks **do not** work in isolation. A single network is one of the many components that are interconnected to ensure that **essential services** are available on request all time.





# Always Remember

As a computer administrator. Your main objective, with your operating system, should be to keep it online and functioning correctly. But you can only do this if you know what the most common computer problems are.





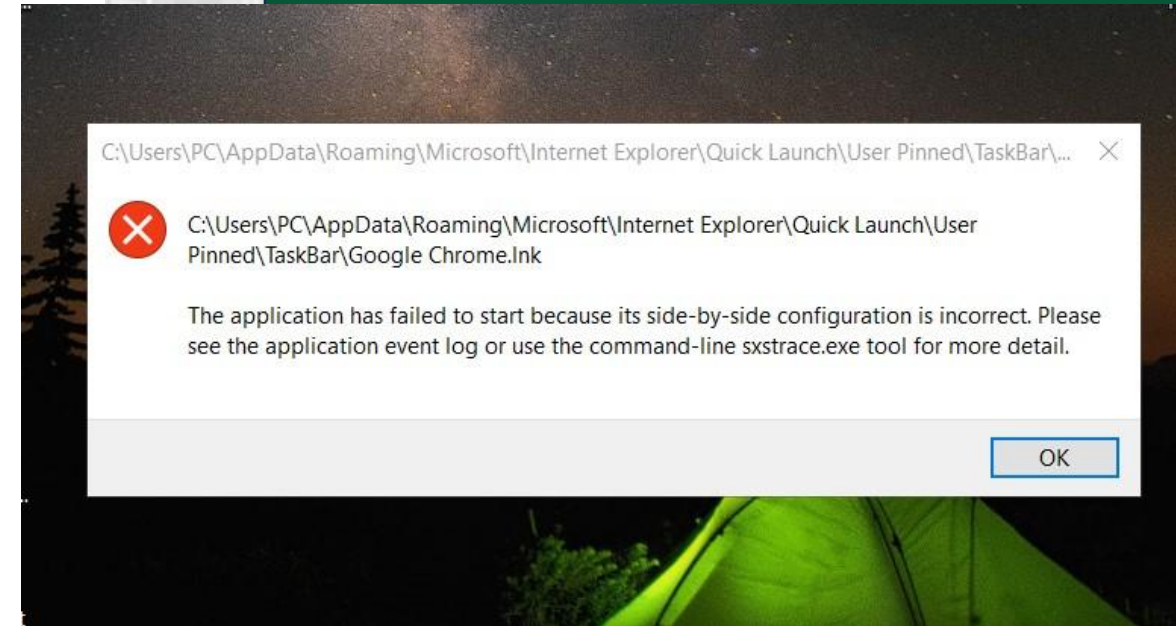
# Common Computer Problems

**Software  
Problem**

**Hardware  
Problem**

## ERROR IN CONFIGURATION

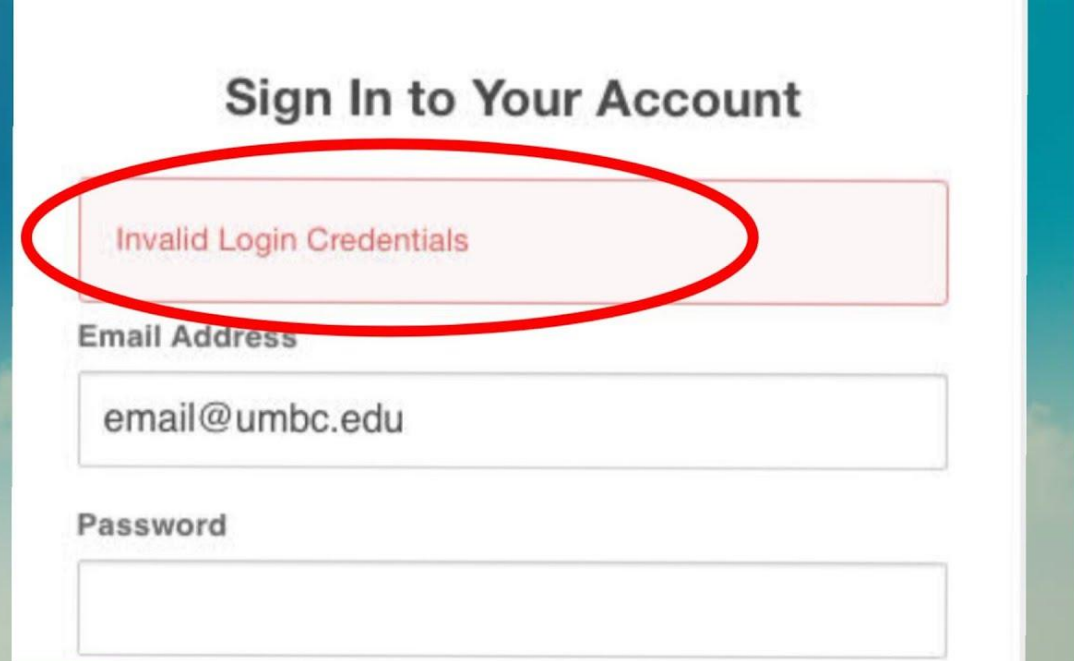
When you initially set up your system, the load balance that the network could handle at that time was small compared to now. When the demand for resources increases, you can either adjust the configuration to match the existing resource demands and complexities that come with network growth.



# Software Problems

## WRONG SETUPS OF USER CREDENTIALS

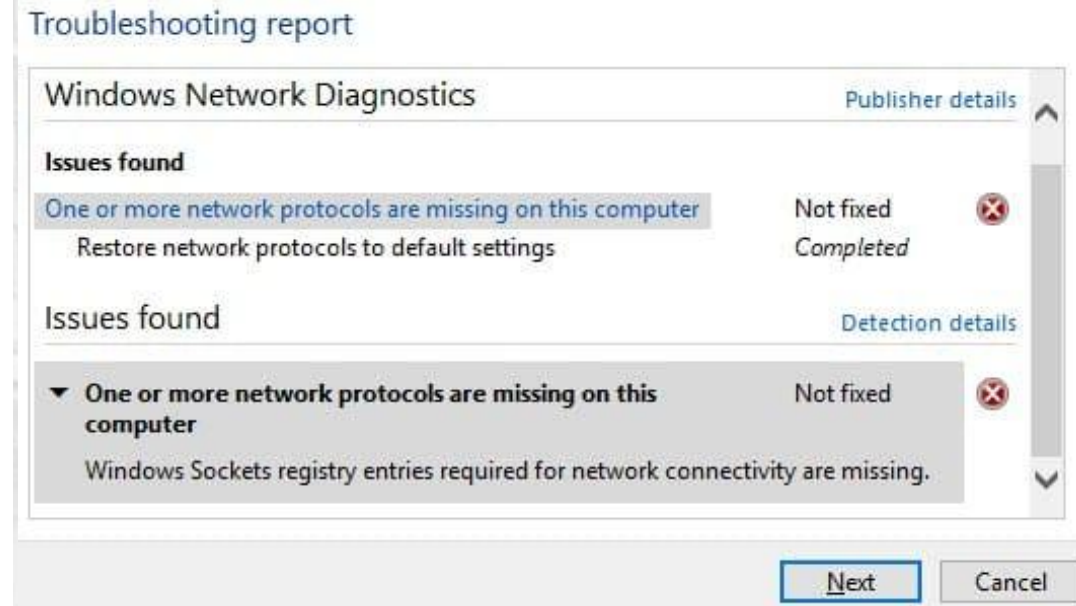
Wrong user credentials on server software will cause problems when it comes to sharing or accessing resources. The biggest issue caused by this is that a user cannot logon to the system and his account remains locked out until the problem is sorted out.



The screenshot shows a login interface titled "Sign In to Your Account". It features three input fields: "Email Address" containing "email@umbc.edu", and "Password" which is empty. A red oval highlights a message box above the password field that says "Invalid Login Credentials".

## PROTOCOL ISSUE

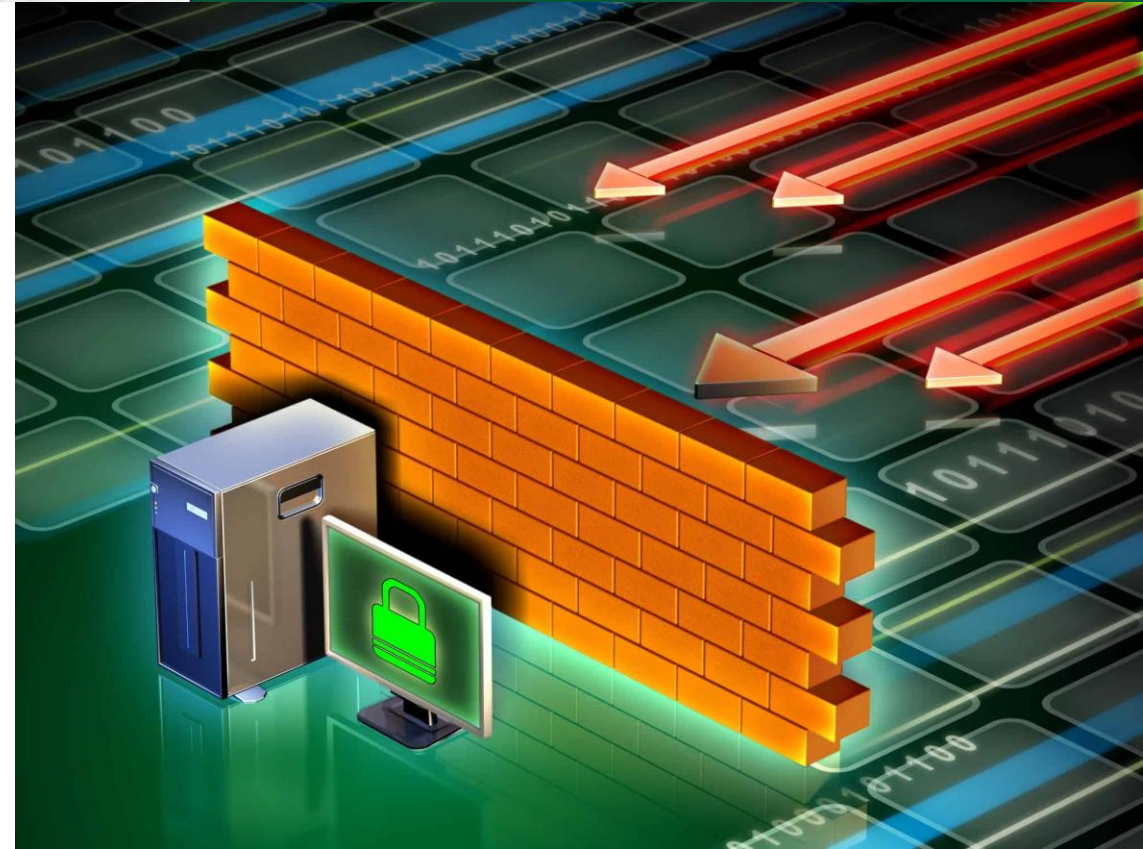
Transmission control protocols and other TCP/IP based protocols may have bug that will halt or slow down the delivery of packed. Data packets being transported via Internet Protocol may fail to reach their destinations because of packet collisions. Frequent collisions affect data transfer from one host to another. Running repair tools from within the server software utilities can resolve such an issue.





## SECURITY FLAWS

Failure to set up security features for your system leaves it open to threats from malicious attackers. Malware can also change the registry settings and leave the system open to attacks and hacking. Some of this interconnectivity issues can be sorted out by installing an intelligent switch or router that listens to incoming connections and blocks suspicious sites.



# Software Problems

## SLOW CONNECTIVITY

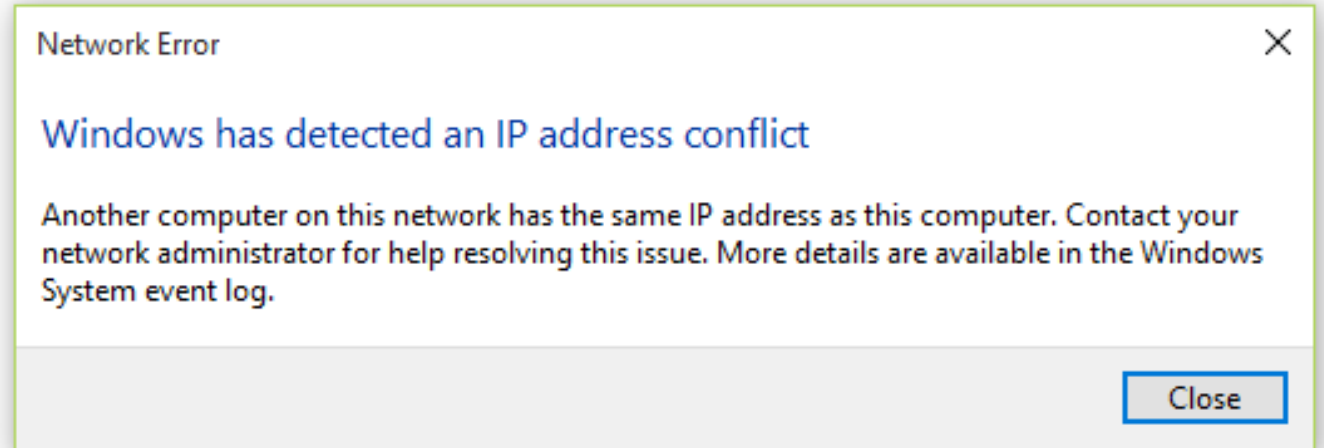
If there's one thing that frustrates an employee, then it's slow connectivity over a network. PCs can grind to a halt and even the simplest task can take an age to complete. It's often caused by large file transfers, so a limit should be put in place on the size that is permitted.



# Software Problems

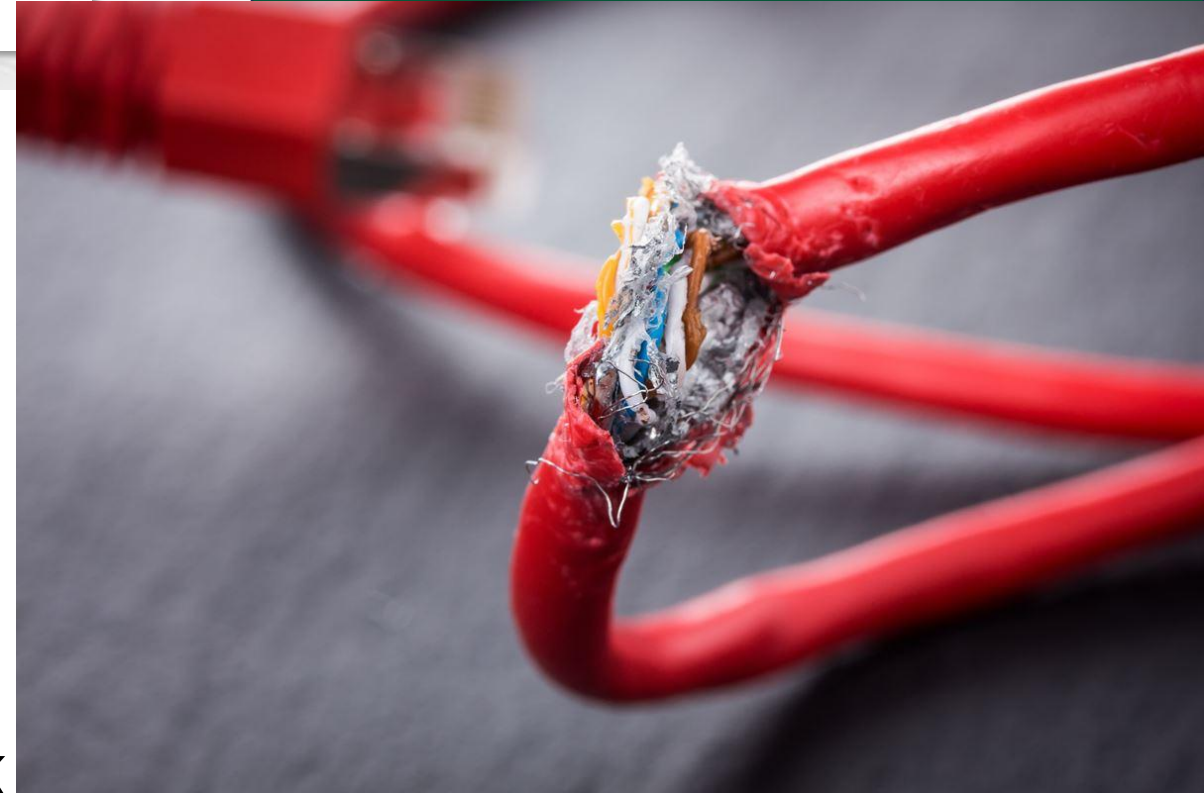
## IP CONFLICTS

Each PC on your network should have a unique IP address such as 209.85.255.255, but sometimes two PCs can be assigned the same IP address. And this can create major connectivity issues for both parties.



## FAULTY CABLES

A computer network relies on cables to facilitate its connectivity. And when just one cable fails it can have massive implications for your network. However, it's easy to overlook cables as the source of network issues.

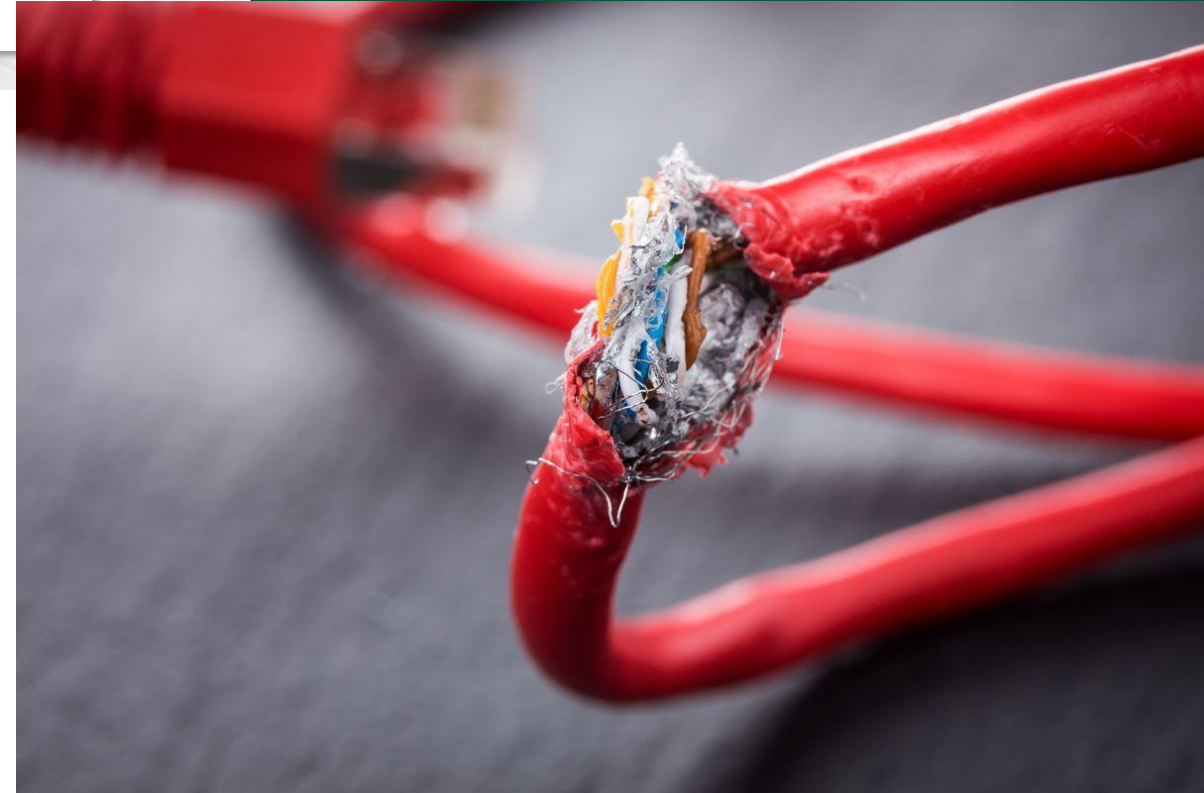




# Software Problems

## FAULTY CABLES

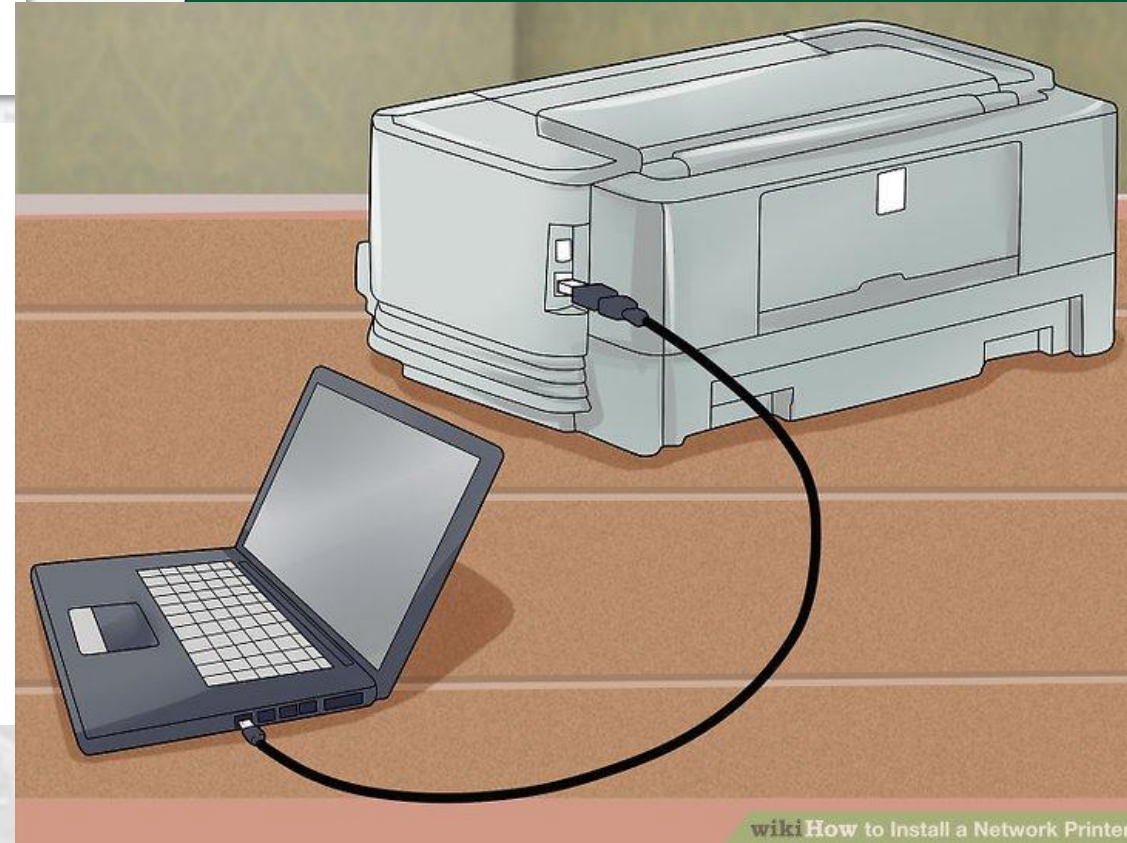
People tend to concentrate on software and hardware troubleshooting first. Nonetheless, investigating the condition of cables in the affected network area is vital.



# Software Problems

## UNABLE TO CONNECT TO LOCAL PRINTER

Printers on a network tend to be shared by multiple users, but occasionally an error can arise that leaves people unable to access the printer.



wikiHow to Install a Network Printer

## WEAK WI-FI SIGNAL

If you rely on wireless connections in your organization, then you will be aware of the issues caused a weak signal. This can often be caused by environmental issues such as the presence of a microwave or even the layout of an office.



## WEAK WI-FI SIGNAL

It's important to eliminate these factors to identify the cause of the fault. Alternatively, the connection issues could be caused by outdated firmware, so make sure all updates are installed.





# Hardware Problems

## BLANK MONITORS

A blank monitor is the most common computer problem. Most people who work with computers might have dealt with such a non-working blank monitor at least once. In such cases, first and foremost is to check the supply cord and power systems. Sometimes, the video cable might be loosened. Just push the video cable and place it again, it should help you now.



# Hardware Problems

## MOUSE PROBLEMS

The mouse is used for a variety of purposes, such as playing games or opening files, and moreover, it facilitates easy navigation, thus easy access to your data. The most common problems related to the mouse include failure to move, connection problems, freezing on the screen, or damage to the mouse.



# Hardware Problems

## MOUSE PROBLEMS

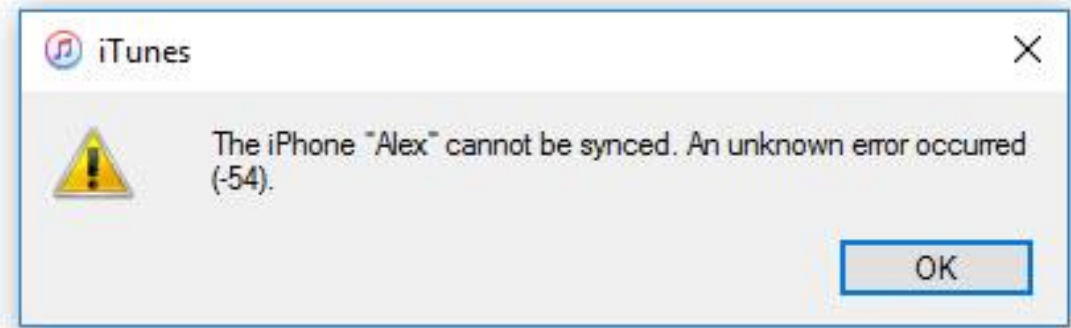
**Jumpy Mouse! Sounds strange right? A jumpy mouse is just a muted mouse i.e., cannot be scrolled. If you have a track and ball mouse, then simply turn it over and open the ball container and remove the excess debris and clean the dirt that lines the rollers. For an optical mouse, eliminate the dust that has collected around the optical sensor.**



# Hardware Problems

## SMARTPHONE WILL NOT SYNC WITH PC

In order to ensure backup of your smartphone, it is important that you regularly sync your phone content with your computer. At times, your PC might fail to sync with your smartphone. It can be due to many reasons. Sometimes it is required that all programs are closed, during syncing or backup.

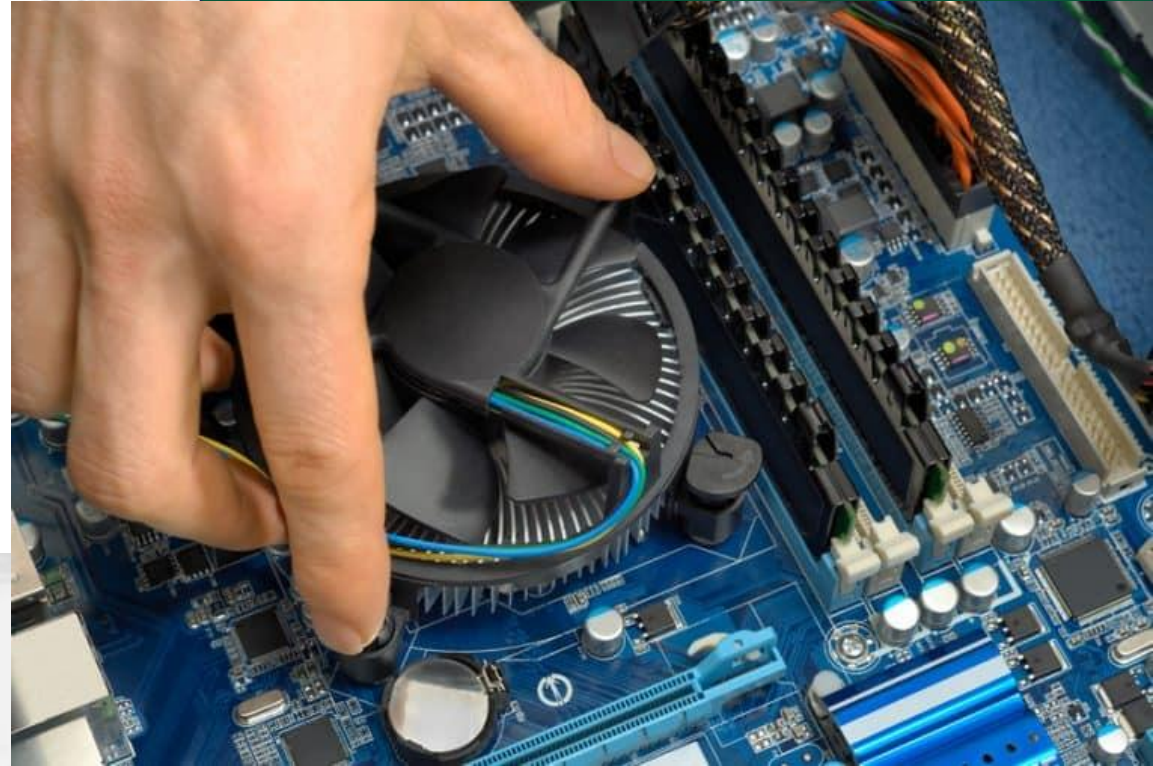




# Hardware Problems

## MOTHERBOARD PROBLEMS

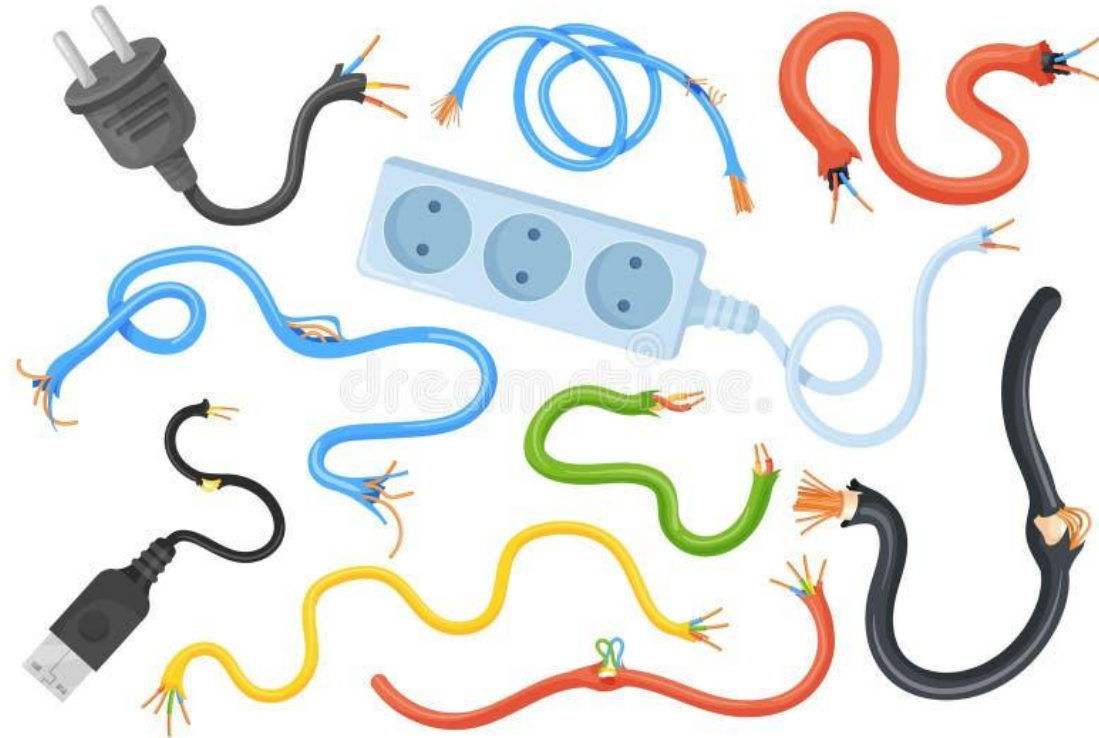
The motherboard contains several parts of the computer including the RAM, BIOS system, mass storage, and CPU. The computer motherboard contains several devices, which can create numerous potential problems.



# Hardware Problems

## POWERCORD PROBLEMS

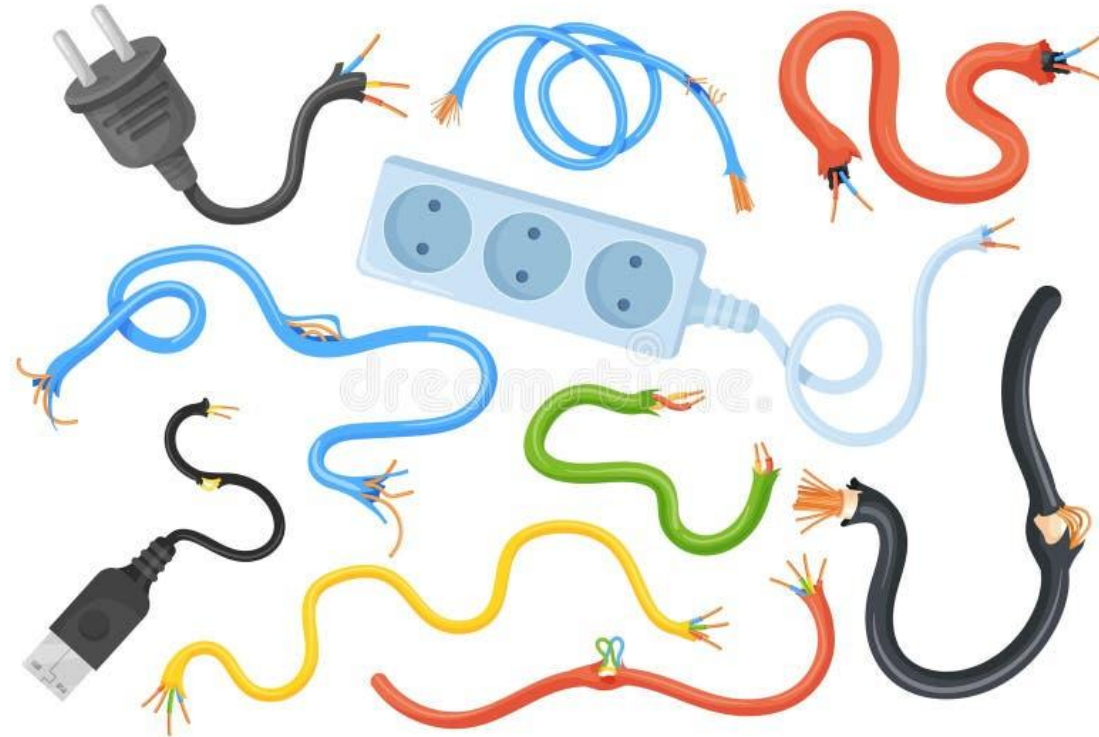
Whether it is a laptop or a desktop, power cords are a vital part of any computer. The desktop needs the power cord to work. A laptop can run on batteries for a limited amount of time but then needs the power cord for recharging. The most common problem with the power cord is an improper connection.



# Hardware Problems

## POWERCORD PROBLEMS

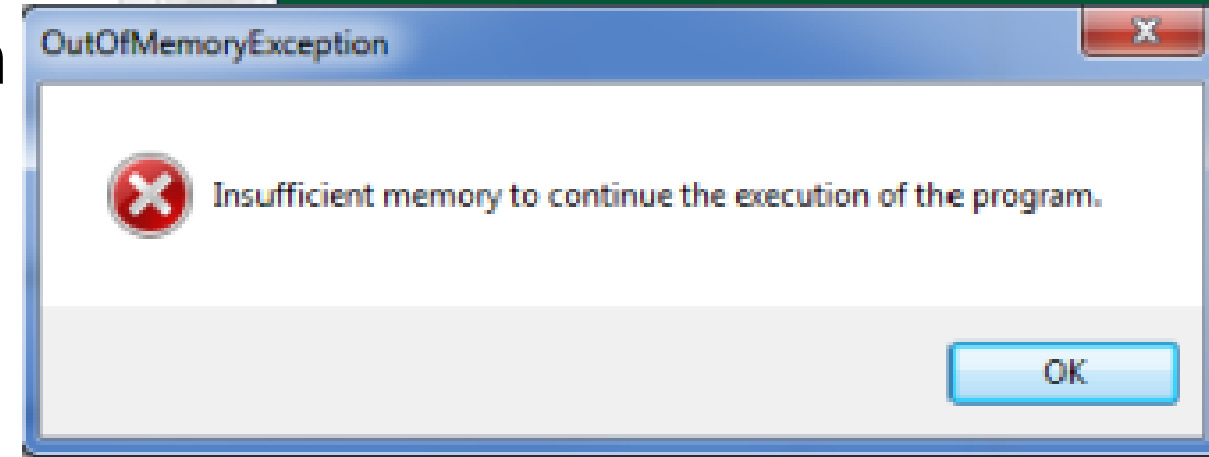
Processor-intensive programs also demand a lot of memory. Random access memory (RAM) aides the central processing unit(CPU) by storing instructions linked to common operations. Without enough RAM, software crashes and slowdowns can occur.



# Hardware Problems

## INSUFFICIENT MEMORIES

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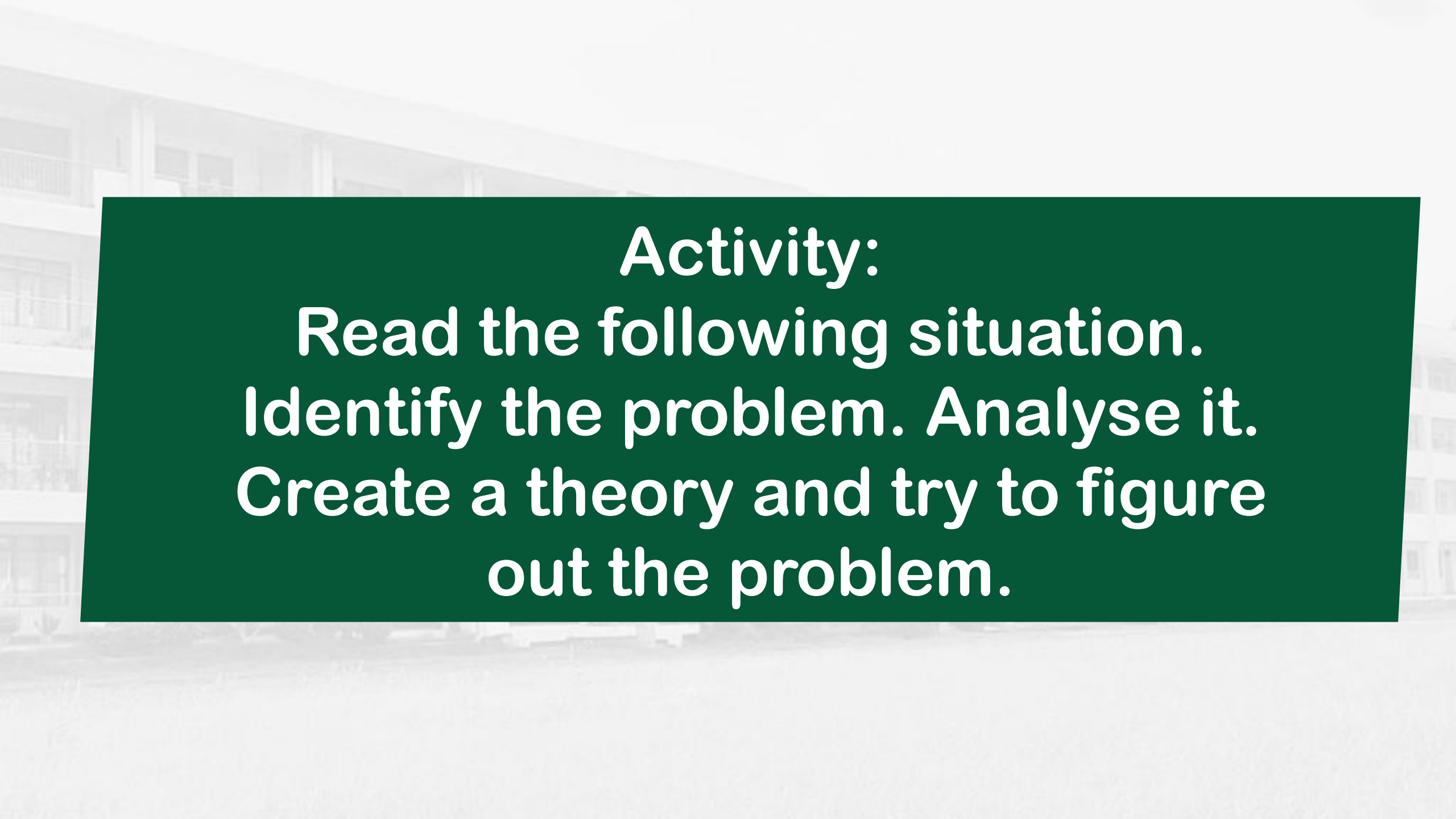




# Additional Information







**Activity:**  
**Read the following situation.**  
**Identify the problem. Analyse it.**  
**Create a theory and try to figure**  
**out the problem.**

**James, a graphic designer, arrives at his home office in the morning to start his work. He presses the power button on his computer and then turns on his monitor. However, the monitor screen remains black, with no display appearing.**

**Sarah, a freelance writer, sits down at her laptop to start working on an article. As she moves her mouse, she notices that the cursor is sluggish, unresponsive, and occasionally jumps across the screen.**

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**David, a college student, is working on his laptop to complete an assignment. He has multiple applications open, including a web browser, a word processor, and a music player. Suddenly, the applications freeze, and he is unable to interact with them.**



**Emma, a remote worker, is preparing for an important video call. She opens her laptop and notices that her internet is not working. The Wi-Fi icon shows "No Internet," but all her cables are properly connected.**

**John, a university student, sits down to watch a documentary on YouTube. He clicks play, but after a few seconds, the video starts buffering. Despite waiting, the buffering continues, making it impossible to watch smoothly.**