NAME: TANKISO MASOEBE

COMPUTER SUPPORT AND MAIN WEEK 10

1. Troubleshooting Cheat Sheet

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Date: _30 OCT 2025_____

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1. Slow Performance

Steps to Troubleshoot:

1. Check CPU, RAM, and disk usage in Task Manager.
2. Close unnecessary background programs.
3. Delete temporary files and perform disk cleanup.
4. Scan for malware or viruses.
5. Disable startup programs that slow down boot time.

Key Tools:

- Task Manager
- Disk Cleanup
- Windows Defender / Antivirus Software

Common Commands:

- `taskmgr` – Open Task Manager
- `cleanmgr` – Open Disk Cleanup
- `msconfig` – Manage startup programs

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2. No Boot / System Not Starting

Steps to Troubleshoot:

1. Check all power and hardware connections.
2. Boot into BIOS/UEFI and confirm the boot drive is detected.
3. Use Windows Recovery Environment (WinRE).
4. Run Startup Repair or System Restore.
5. Use boot repair commands in Command Prompt.

Key Tools:

- BIOS/UEFI
- Windows Recovery Environment
- Installation Media (USB/DVD)

Common Commands:

- `bootrec /fixmbr`
- `bootrec /fixboot`
- `bootrec /rebuildbcd`

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3. Application Crashes or Freezes

Steps to Troubleshoot:

1. Restart the computer and the application.
2. Update or reinstall the application.
3. Check for Windows and driver updates.
4. Scan for corrupted files or missing dependencies.
5. Check Event Viewer for error details.

Key Tools:

- Control Panel → Programs and Features
- Event Viewer
- Windows Update

Common Commands:

- `sfc /scannow` – Scan and repair system files
- `chkdsk /f` – Check for disk errors
- `eventvwr` – Open Event Viewer

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4. No Internet Connection

Steps to Troubleshoot:

1. Check Wi-Fi or Ethernet cable connections.
2. Restart router and modem.
3. Run Windows Network Troubleshooter.
4. Verify IP configuration and adapter status.

5. Reset network settings if needed.

Key Tools:

- Network and Sharing Center
- Command Prompt
- Device Manager

Common Commands:

- `ping 8.8.8.8` – Test internet connection
- `ipconfig /all` – View IP configuration
- `ipconfig /release` & `ipconfig /renew` – Refresh IP address
- `netsh winsock reset` – Reset network adapter settings

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5. Blue Screen of Death (BSOD)

Steps to Troubleshoot:

1. Record the stop code displayed on the blue screen.
2. Boot into Safe Mode.
3. Update or roll back recent drivers.
4. Run memory and hard drive diagnostics.
5. Restore or reinstall Windows if necessary.

Key Tools:

- Windows Memory Diagnostic
- Device Manager
- System Restore

Common Commands:

- `mdsched.exe` – Run memory diagnostics
- `driverquery` – List all installed drivers
- `chkdsk /r` – Check and repair disk sectors

2. OS Recovery Exploration

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Objective:

To understand and practice how to repair a Windows operating system that fails to boot by using the Windows Recovery Environment (WinRE) tools.

Procedure:

1. **Creating the Problem:**
   o I used a **Virtual Machine (VM)** to safely perform the test.
   o I accessed the **Command Prompt** from within the virtual environment.
   o Inside the system directory (`C:\Windows\System32`), I deliberately renamed a critical boot file (for example, `bootmgr` to `bootmgr.old`).
   o After renaming, I restarted the VM, which resulted in a **boot failure** showing a "Bootmgr is missing" error message.

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2. **Booting into Windows Recovery Environment (WinRE):**
   o I inserted the **Windows installation media (ISO)** and booted from it.
   o When prompted, I selected **Repair your computer → Troubleshoot → Advanced Options** to enter **WinRE**.

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3. **Repairing the Boot Process:**
   o **Startup Repair:**
      I ran the Startup Repair tool to automatically detect and fix startup issues. The tool attempted to restore or replace missing boot files.
   o **System Restore:**
      I used System Restore to roll back the system to an earlier restore point before the boot issue occurred.
   o **Command Prompt:**
      I opened Command Prompt in WinRE and used several key commands to manually repair the boot files:

3. Case Study Analysis

Problem-Solving Process:

Other users on the forum suggested several possible causes, including faulty hardware, corrupted system files, and incompatible drivers. One experienced user identified that recent **Corsair**

component drivers (specifically related to RGB and power control software) were known to cause this issue after a Windows update.

Following this advice, the user:

1. Booted into Safe Mode.
2. Uninstalled the Corsair driver and related software.
3. Rebooted the computer and installed a stable, earlier driver version.

After applying these steps, the BSODs stopped completely, confirming that the issue was a **driver conflict** between Windows and Corsair software.

Systematic Methodology Evaluation:

- **Define the Problem:** The user clearly described the BSOD symptoms and timing.
- **Gather Information:** They provided system specs and exact error codes.
- **Formulate Hypothesis:** Community members helped identify a likely driver conflict.
- **Test and Implement Fix:** The user tested by removing and reinstalling the driver.
- **Verify and Document:** They confirmed that the issue was resolved and updated the thread.

Prevent Recurrence: Partially – no long-term monitoring or preventive steps were mentioned.