◆ **Setting Up Ubuntu on VirtualBox**

1. **Install VirtualBox** and open it.
2. Click **New** → Add name as **Ubuntu** (Keep address unchanged).
3. Select the **ISO image** (Ubuntu file location).
4. Click **Next** → Set username & password.
5. **Hardware Configuration:**

   - **Base Memory:** Set to **half** of available RAM (Check Task Manager).
   - **CPU Cores:** Set to **half** of available cores.
     6. Click **Next** → **Finish** to complete setup.
     7. If an **error occurs**, restart the PC, reopen VirtualBox, and click **Start**.
     8. Once loaded, enter the **name, username, and password**, then click **Continue** to install.
     9. After installation, **log in using the password**.

◆ **Adjusting Display Size**

📌 **Method 1:**

- Go to **Settings** → **Display Resolution** and select **1920 × 1440 (4:3)** → Apply.

📌 **Method 2:**

- Click **View** → **Full-Screen Mode** (To exit, press **Right Ctrl + F**).

📜 **Shell Scripting Basics**

◆ **Introduction**

- **Shell scripting** automates tasks using commands in a file.
- Uses the **Bash shell (`#!/bin/bash`)** as the script header.

◆ **Creating & Running a Shell Script**

1. **Create a folder** for shell scripts (`shellscripting`).
2. Open **Terminal**, navigate to the folder, and create a script:

touch filename.sh

③ Open the script in **nano editor**:

nano filename.sh

④ Add the script header & a command:

#!/bin/bash
echo "Hello, TechSaksham!"

⑤ **Save the script:**

- Press **Ctrl + X → Y → Enter**.

◆ **Executing a Script**

◆ Run the script with execution permission:

chmod +x filename.sh
./filename.sh

◆ Run **without** changing permissions:

bash filename.sh

◆ **Variables & Arithmetic in Shell Scripting**

Declaring Variables

No spaces between variable name and value:
 a=10
b=20

-

Use **$variable_name** to access a variable:
 echo "Value of a is $a"

-

Performing Addition

```
result=$((a + b + c))
echo "Addition of $a, $b, $c is $result"
```

🔹 Comments in Shell Scripts

📝 **Single-line comment:**

```
# This is a comment
```

📝 **Multi-line comment:**

```
<<end
This is a multi-line comment.
end
```

(Replace end *with any word, but it must match at the start and end.)*

🔹 Key Topics Covered Today

✅ Types of Programming Languages
✅ **Object-Oriented vs. Procedural Programming**
✅ Datatypes & Operators (Logical & Comparison)
✅ Conditional Statements in Shell Scripting

💡 Summary

Day 1 covered **Ubuntu installation on VirtualBox**, an **introduction to Shell Scripting**, and the **basics of scripting, variables, arithmetic operations, and comments**. Looking forward to **Day 2**! 🚀