C/C++ Compilation and Execution

For C Programs:

To compile a C program:

gcc filename.c -o compiledfilename

For C++ Programs:

To compile a C++ program:

g++ filename.cpp -o compiledfilename

To Run the Compiled Program:

./compiledfilename

- **filename**: The name of the source file (e.g., exp7a.cpp or exp7a.c).
- **compiledfilename**: Any name you choose for the compiled program to run later.

Java Compilation and Execution

Rules for Public Classes:

1. The file name **must match the public class name**.
2. The directory structure **must match the package declaration** (if any).

Example:

Directory Structure for package com.myjava.threads:

Root/
└── com/

```
└── myjava/
    └── threads/
        └── RunMyThread.java
```

Code (RunMyThread.java):

```java
package com.myjava.threads;

public class RunMyThread {
    public static void main(String[] args) {
        System.out.println("Hello from RunMyThread!");
    }
}
```

Steps to Compile and Run:
Navigate to the Root Directory:

```
cd Root
```

1.

Compile the Program:

```
javac com/myjava/threads/RunMyThread.java
```

2.

Run the Program:

```
java com.myjava.threads.RunMyThread
```

3.

Shell Script Usage Instructions

1. Save the script with a .sh extension (e.g., file_operations.sh).

Make it executable:

```
chmod +x file_operations.sh
```

2.

Run the script:

```
./file_operations.sh
```

3.

JAVA INSTALLATION

Step 1: Check if Java is Installed

1. Open your terminal.

2. Type the following command to check the Java version:

```
bash

java -version
```

 - If you see the version number, Java is installed.

 - If not, install Java by following the instructions below.

Step 2: Install Java (if not installed)

1. For Debian/Ubuntu-based systems:

   bash

   sudo apt update

   sudo apt install default-jdk

2. For Arch Linux:
   bash
   sudo pacman -S jdk-openjdk

3. For Fedora:
   bash
   sudo dnf install java-11-openjdk

   (Replace java-11-openjdk with your desired Java version.)