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**Operating Systems Lab**

**Fall 2024**

**Lab Task 06:**

**Lab Instructor:**

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**Date:29/9/2024**

**QNO#1**

1.create the file with .c extension

2.Save the program

3 ctrl X

**Run**

4.Chmdo 777 filename

5. gcc -o filename filename.c

6. ./filename

**QNO#2**

The -o option in the gcc command is used to specify the name of the output file

**e.g:**

**gcc hello.c -o greet**

**QNO#3**

gcc g++

gcc is used for C language G++ is used for c++ language

g**cc** is used for .c files. **g++** is used for .cpp files

**QNO#4**

1.Make file name with .cpp extension

2.Save the program

3 ctrl X

Run

./filename

**QNO#5**

#include <iostream>

using namespace std;

template <typename T>

T getMax(T a, T b) {

return (a > b) ? a : b;

}

int main() {

cout << "Max of 10 and 20 is: " << getMax(10, 20) << endl; // Using integers

cout << "Max of 15.5 and 12.3 is: " << getMax(15.5, 12.3) << endl; // Using doubles

cout << "Max of 'A' and 'B' is: " << getMax('A', 'B') << endl; // Using characters

return 0;

}

**QNO#6**

File extensions in C programming, like .c for C files and .cpp for C++ files, are important because they help compilers know how to process the files. They make it easier for developers to identify and organize their code, improving teamwork. Integrated development environments (IDEs) use these extensions for helpful features like syntax highlighting and code suggestions.

**QNO#7**

1. **Syntax Errors:** Missing or mismatched brackets/parentheses/braces
2. **Undefined References**: Ensure all functions and variables are defined and correctly referenced. Include necessary headers.
3. **Type Mismatch**: Verify data types are compatible; use type casting if needed.

**Solution**

* Read co­mpiler messages for clues.
* Compile often to check for errors early.
* Comment suspicious code to isolate problems.

**QNO#8**

We give all permission to file

Chmod 777 filename

**E.G**

chmod 755 hello.c

**Qno#9**

When Linux was first created, most of the software used in Linux systems was passed around in **tarballs**. A tarball is a single archive file (created using the tar command) that can contain multiple files.

ADVANTAGES:

* Simplicity: Tarballs are not complicated to create or to get out of the way. The tar command makes a single package that can include files and directories that can be easily shared over the internet.
* Compression: Tarballs are compressible with different file formats to get smaller sizes so that they need less space and are easier to transfer. Some of the most common compression types are gzip and bzip2.

**ISSUES:**

Once you installed the tarball, there was no way to manage the software. It would be hard to know which version of the software you had. Or which files are stored and what location. Because files could be spread across your file system, it could be difficult to remove the software or upgrade it.

**QNO#10**

RPM is the default package installation tool used in Red Hat Linux. RPM stands for Red Hat Package Manager. All required files of an application is compiled in a single file format called with a file extension of **.rpm**

1.**Dependency Management**: Automatically resolves required libraries.

2. **Simplified Installation**: Offers a straightforward command to install packages, unlike the complex manual process with tarballs.

3. **Easy Uninstallation**: Allows for clean removal of software without leftover files.