**Name: Mohammad Awais**

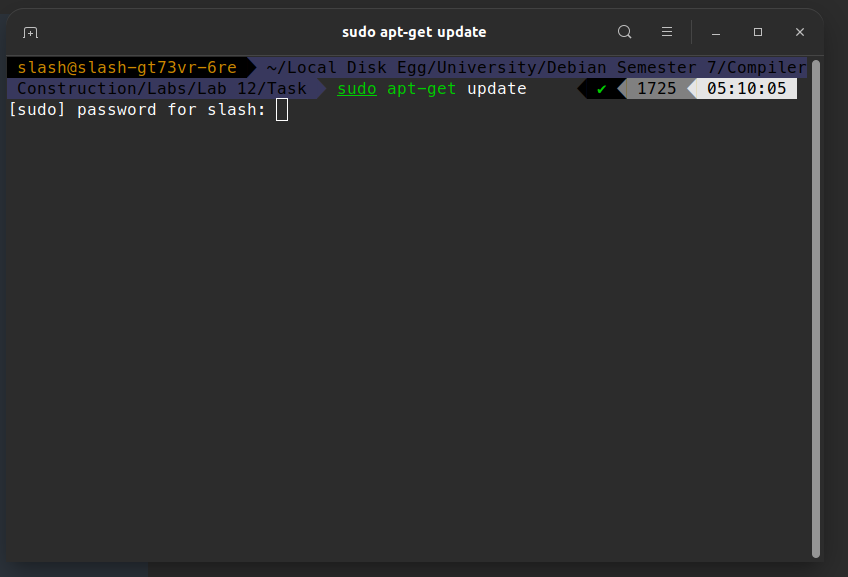
**Class: BSCS-8-A**

**CMS: 242554**

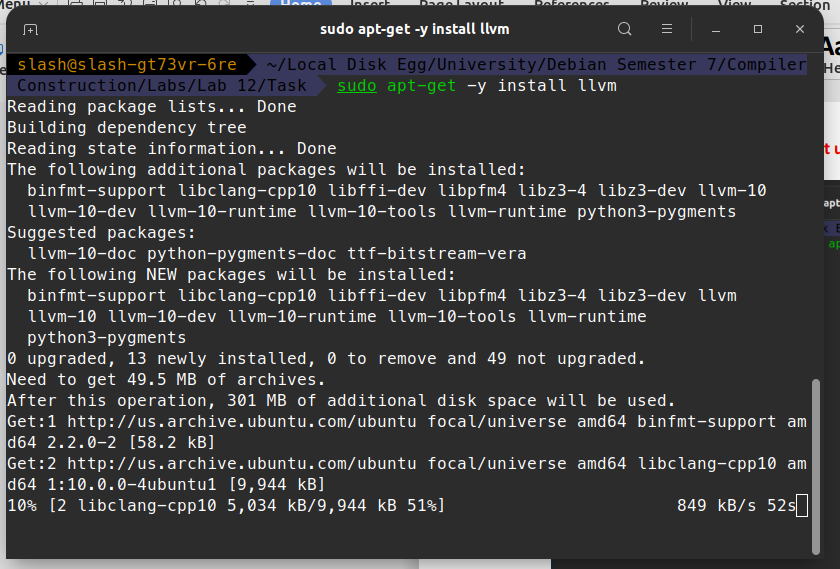
# Compiler Construction Lab 12

## Task 1 ( Install LLVM ):

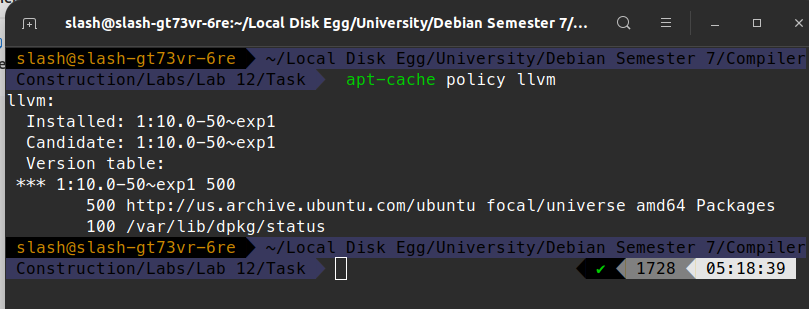
* **Installing LLVM using apt-get, first update apt-get.**



* **Installing LLVM with command “ *sudo apt-get -y install llvm* ‘**

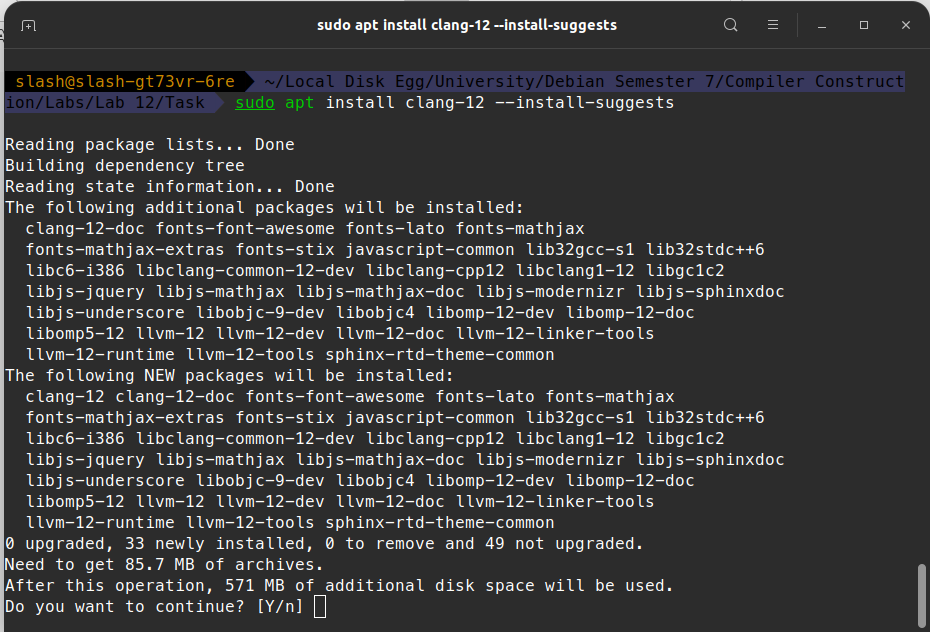


* **Checking if installed by “ apt-cache policy llvm ‘**

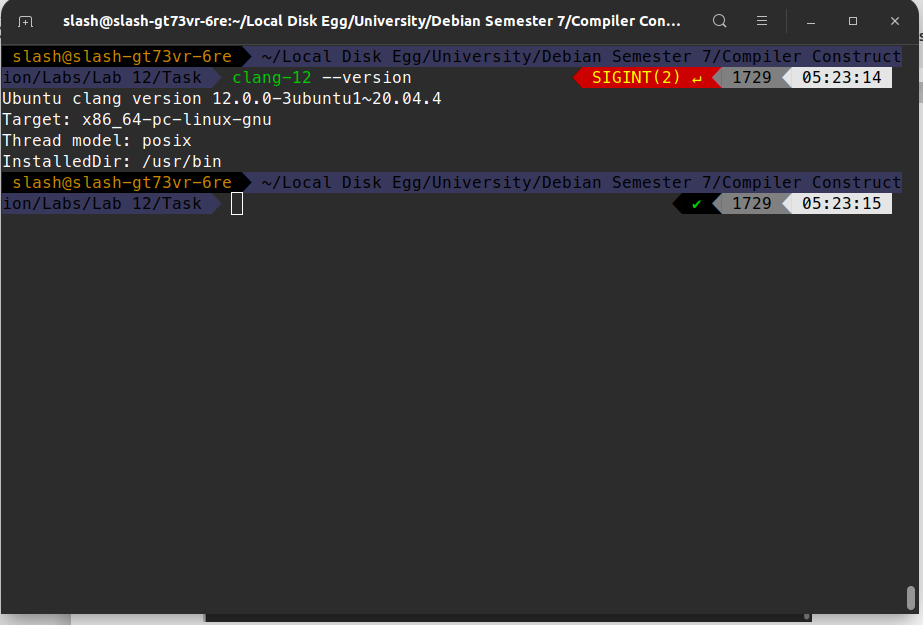


**NOTE: NO NEED TO CONFIGURE AND COMPILE AS APT-INSTALLED**

* **Installing clang12 as not exists:**

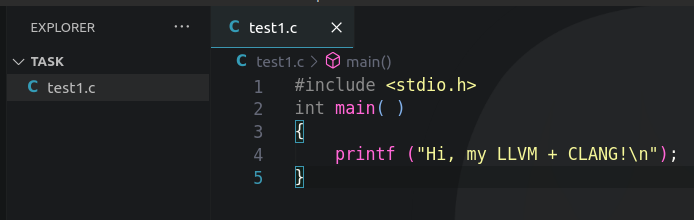


* **Check if installed:**



## Task 2 ( LLVM Code ):

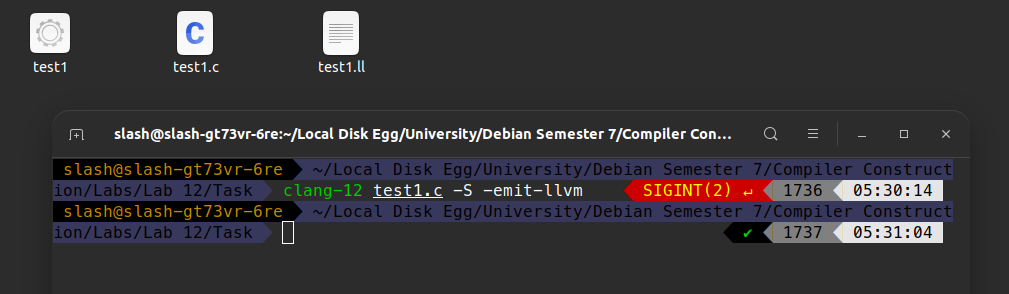
* **Created “ *task1.c* “ with code given:**

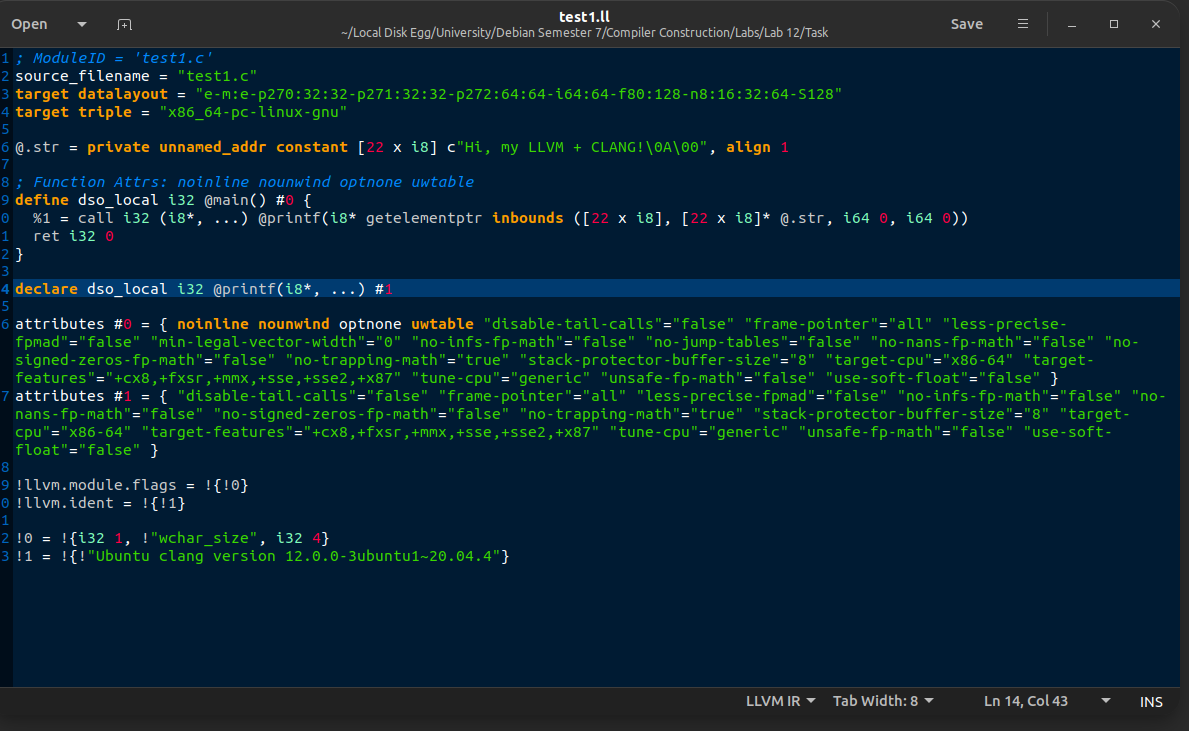


* **Compiling using clang (native code) and running it:**

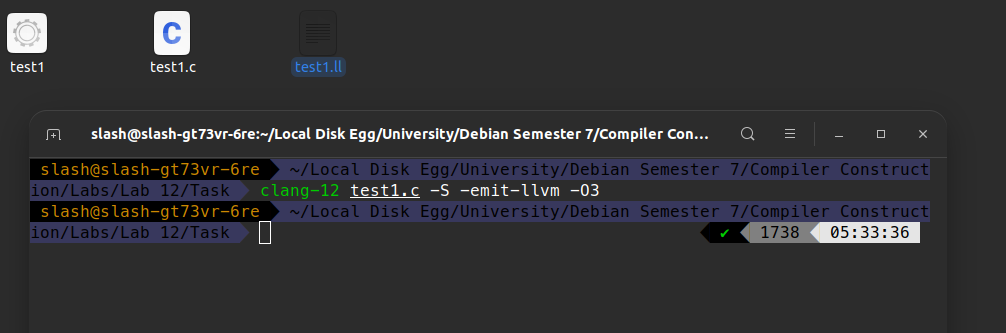


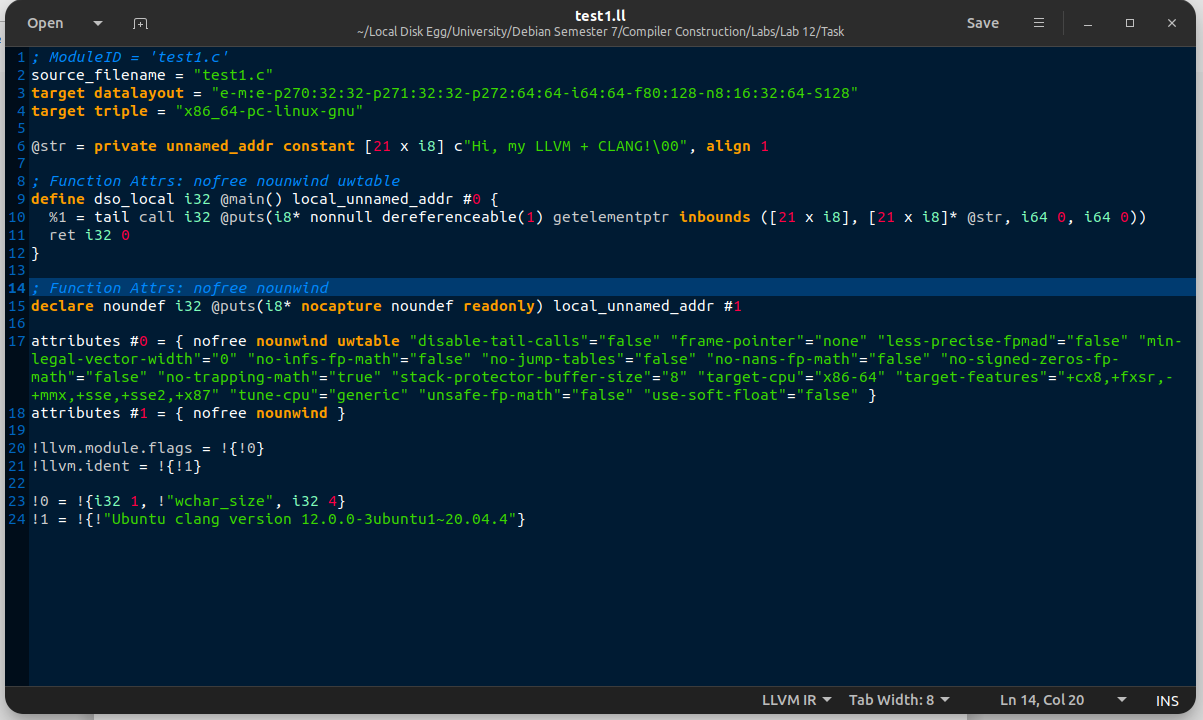
* **Generate LLVM IR (Assembly Form) using following command:**





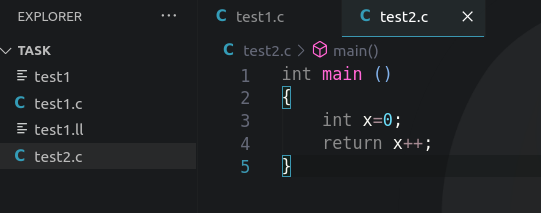
* **Running same command with optimization flag:**

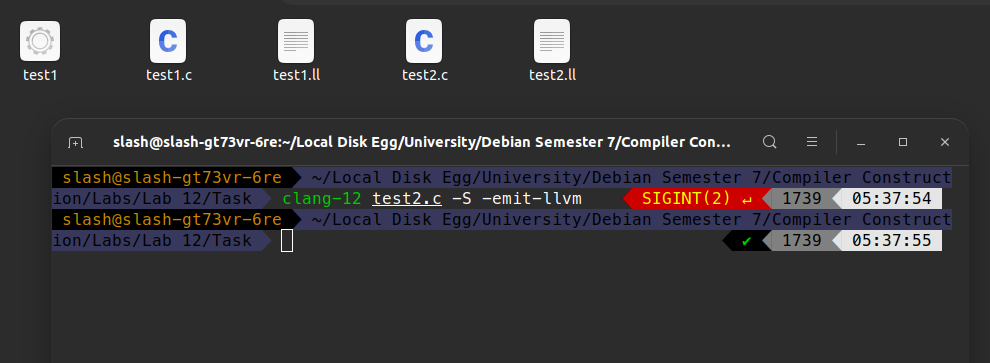


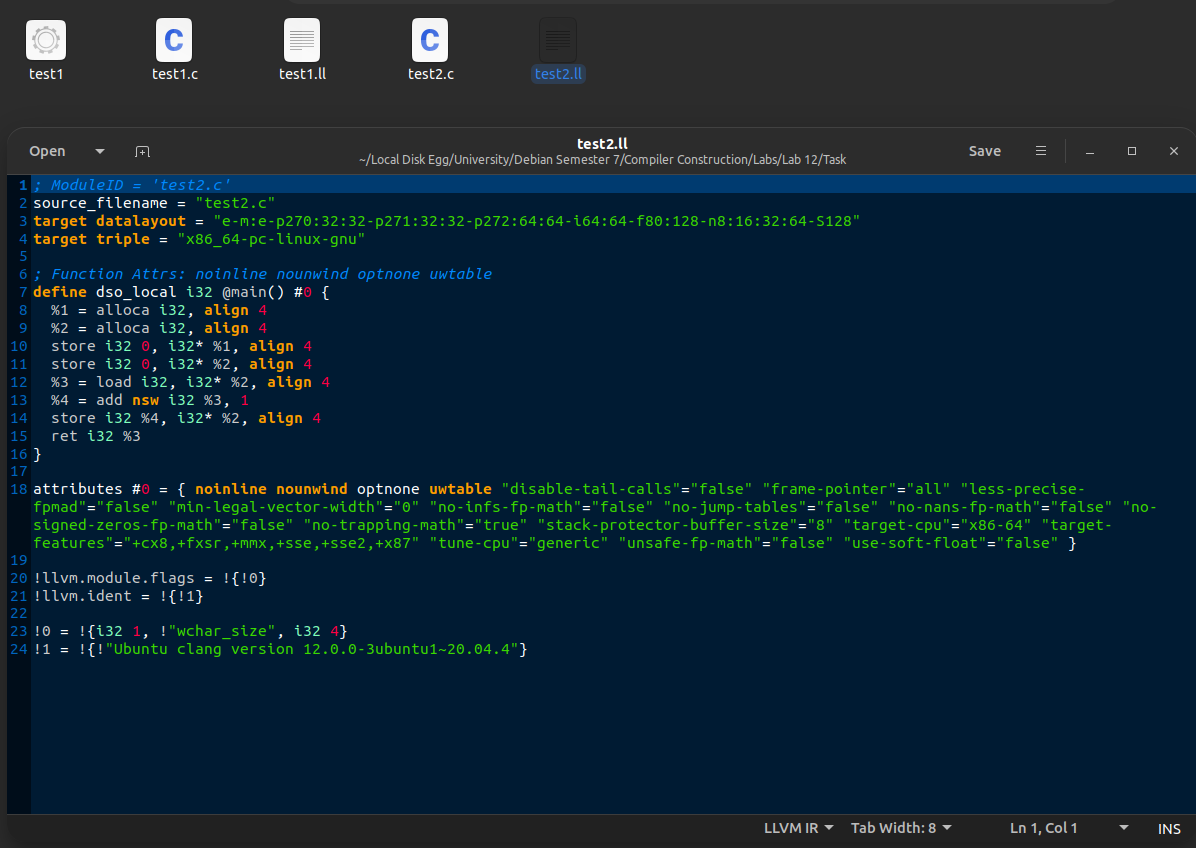


**Difference : Optimized code have some other functions used like “Puts” in place of “print” , etc. In DSOLOCAL**

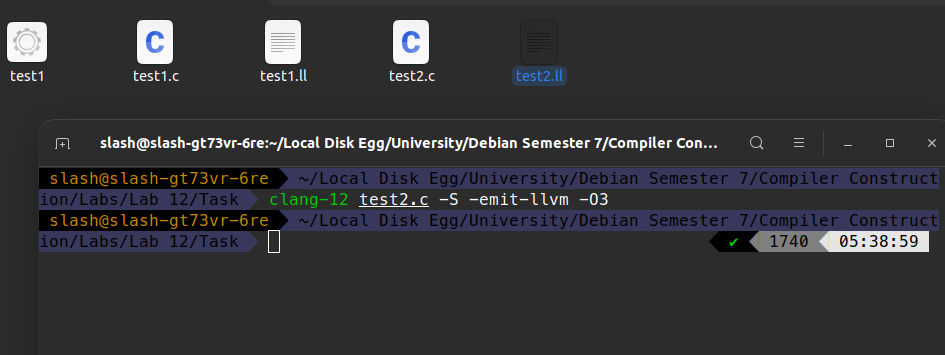
* **Doint the same for another code:**

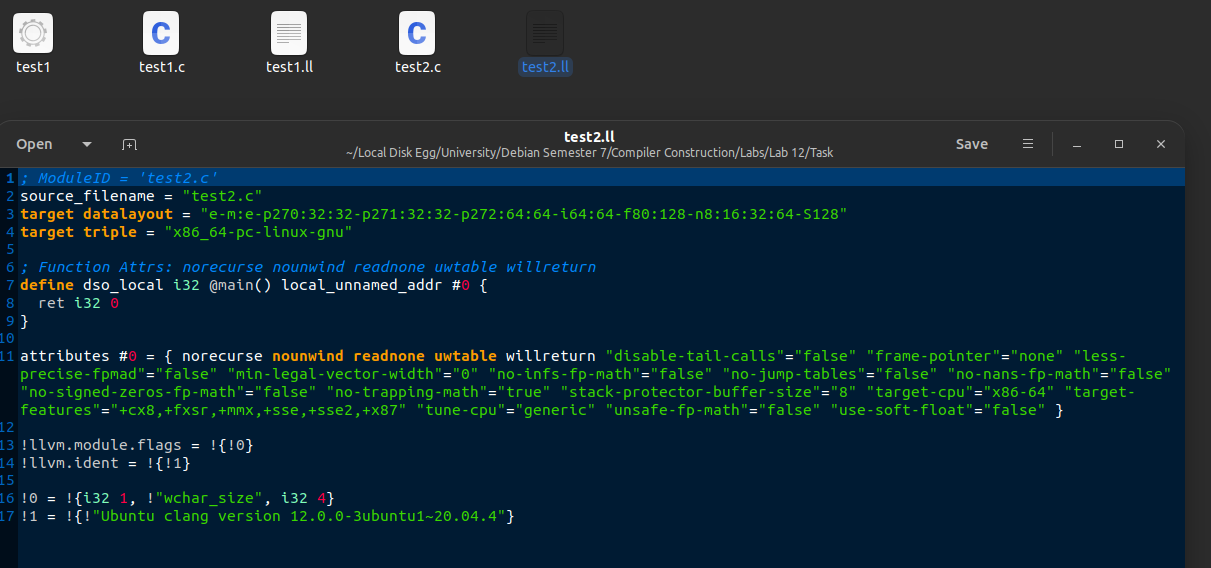






**AND NOW OPTIMIZED :**





**Difference : As noticed here, Optimized Code has only one line in dso\_local whereas there’s many in non-optimized Code**