**Lab 1**

Assembly language programming is taught by practicing code over **“NASM”** assembler and debugger.

So it is required for every student to learn that how to install assembly language assembler and debugger.

Sometimes our new windows did not support “nasm “programming directly, so DOSBOX is introduced that is an emulator that will provide you compatibility of programming on all windows platforms.

**This LAB will give student a complete guideline that how to install nasm and DOSBOX**

**Mechanism to Conduct Lab:**

Students and teacher communicate through Skype/Adobe Connect. Students will write code using Notepad or Programmer’s Notepad and will share code and screen output.

Nasm: <https://vulms.vu.edu.pk/Courses/CS401/Downloads/AssmSoft.zip>

DosBOX: <http://sourceforge.net/projects/dosbox/files/dosbox/0.74-2/DOSBox0.74-2-win32-installer.exe/download>

Programmers Notepad: <https://github.com/simonsteele/pn/releases/download/v2.4.2/portable-pn2421440.zip>

**Solution:**

Student is provided with Downloads links and complete audio tutorial to install assembler

In sessions students can discuss its installation issues and then teacher can check for each student that he/she is able to execute program of assembly language or not

Follow the steps provided in tutorial for NASM installation and program execution of assembly language

<https://vulms.vu.edu.pk/Courses/CS401/Downloads/How%20to%20run%20NASM.mp4>

For AFD commands understanding

<https://lms3.vu.edu.pk/CourseResources/OpenFile.aspx?File=AFD_Commands.doc>