**CS322- Lab 3**

**Assembly language Programming**

The goal of this is to familiarize the students with x86 assembly language features.

**Part 1 : 16 bit Assembly language programming**

**In this section we set up an emulator to run 16 bit assembly**

**Step1: install: DOSBox**

**Unzip the 8086.zip file and store in C drive. (that is C:\8086)**

**First, run dosbox.exe, You have to basically set that as new directory just for DOSBox. Essentially, it's going to become the C:\> drive of 8086 . So, type:**

**Z:\>MOUNT C C:\8086**

**Drive C mounted as local directory C:\8086\**

**Next->**

**Change drive to C ( C: )**

**Now**  have to compile the program.  
>masm**Yourfilename.asm**> l**ink Yourfilename.obj**

**>debug Yourfilename.exe**

**Exercise 1:**

>masm**avr.asm**> l**ink avr.obj**

**>debug avr.exe**

**Your assignment:**

**P1\_0:**

**Study the debug tutorial and write a short report on important commands.**

**P1\_1:**

**Write an assembly language program to find sum of 10 random numbers.**

**P1\_2:**

**Write an assembly language program to find average of the given set of 16 bit number numbers.**

**P1\_3:**

**Write a program to find largest and smallest among an array of numbers and print the difference between them.**

**P1\_4**

**Select six small problems of your own and write three assembly language programs to solve them. ( submit P1\_4a.asm, P1\_4b.asm, P1\_4c.asm, P1\_4d.asm, and P1\_4e.asm,; include problem at the beginning of the asm file as comment statements and comment each instruction )**

**Your Lab Assignment 3 (100 points)**

**Submission (single zip file with all programs in doc/pdf with source files P\*.asm:**

<https://u.pcloud.com/#page=puplink&code=8Ld7Zm7F5AhonbiJSD2JYW6Xzjym2n9hV>

. **Due on** 15th September 5 PM**.**