

Lab D: Reading Material

Lab D is dedicated to basic programming in Assembly language, getting familiar with basic instruction, addressing and C function calling from Assembly code. This lab assumes you have already completed lab 3.

C functions

In this lab you are required to process the arguments passed to the main function. Re-read the manual about the main function [main man](#). For printing purposes in this lab you are required to use stdlib functions [printf](#) and [puts](#).

Assembly and NASM

In this course we use NASM, the Netwide Assembler: an assembler targetting the Intel x86 series of processors. Read the [NASM manual](#). Review lecture on "Assembly Language Primer", and read about each instruction shown in the lecture in the NASM manual for better understanding. Make sure to understand the basic arithmetic commands, flow commands, effective addressing, variables declaration, global, extern etc.

Read more about NASM registers [registers](#).

Little Endian and Big Endian

In computing, endianness is the order or sequence of bytes of a word of digital data in computer memory. Endianness is primarily expressed as big-endian (BE) or little-endian (LE). Read more about the differences between the methods [Endianness](#). Understand the data layout in each of the methods.

Linear-feedback shift register

Applications of LFSRs include generating pseudo-random numbers, pseudo-noise sequences, fast digital counters, and whitening sequences. Both hardware and software implementations of LFSRs are common. Read more about LFSR here [LFSR in Wikipedia](#).