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| User’s Guide to Integration |
| Lab 3 Group BEERZ |
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# Introduction

The WI11 machine program allows a user to write an assembly program, link several together (if desired), and finally simulate the program. Included are User’s Guides for each of the components (Assembler, Linking-Loader, and Simulator), as well as Programmer’s Guides and Testing Plans. Additionally, there is an overall testing plan included.

# Installing the System

To use the WI11 Machine System, you need to have the Simulator, Assembler, and Linking-Loader installed. For installation instructions for each of the components, please refer to the installation guides in each respective User’s Guide.

To install them together, unzip the program files in the desired directory. After making sure that the directory path points to the folder where the files where unzipped, use the following instruction to compile the files:

> javac Common\\*.java Assembler\\*.java Loader\\*.java Simulator\\*.java

or equivalently:

> build-all

Overall, the WI11 Machine System can run on any platform that supports the Java Runtime Environment. The disk space and memory footprint are minimal on any modern machine.

# Writing a Program

Programmers will want to write a program following the specifications in the Assembler, as that is the first component of the program, and is the easiest to write for. The specifications for an assembly program are explained in detail in the Assembler User’s Guide.

# Running a Program

After writing an assembly program, the following steps Assemble, Load, and Simulator your program.

## Assembler

Before executing this command, please verify that your current directory is where the file you wish to assemble is located.

The command for compiling an assembly program is as follows;

>java Assembler.Main (inputfiles)

or equivalently:

>asm (inputfiles)

The output file will be the inputfiles names with a .out extension. For further command options, refer to the User’s Guide for the Assembler.

## Linking-Loader

The command for loading an object file(s) created by the assembler is as follows:

>java Loader.Main (inputfiles) –o (outputfile)

or equivalently:

>ld (inputfiles) –o (outputfile)

Please note that most programs should be run through the loader before running in the simulator. An exception to this rule would be single file absolute programs.

## Simulator

The command for simulating an assembly program is as follows;

>java Simulator.Main (inputfile)

or equivalently:

>sim (inputfile)

The inputfile should be replaced by the object file that contains the program to simulate. All output will be printed to the console. For further command options for the Simulator, please refer to the User’s Guide for the Simulator.