School of Electrical and Information Engineering
University of the Witwatersrand, Johannesburg
ELEN2004/ELEN2020 - Software Development I

Laboratory Exercises

Introduction

The laboratory exercises are designed to help you engage in learning about software development. Your textbook will be an important supporting resource, as well as the lectures and tutorials.

Deliverables and Assessment

Each laboratory exercise will have specific deliverables. These deliverables will usually entail completing a flowchart (pre-lab) and writing source code to complete a specified task. To qualify to write the second practical programming test you will need to have demonstrated competence in all the laboratory exercises completed. Any errata or amendments to the laboratory exercises will be posted online.

Lab 0: Setting up your machine

As an engineer an important skill is installing software and tools on your computer.

0.1 IDE: Code::Blocks

The computers in DLab already have Code::Blocks installed. If you have a personal computer you will need to install Code::Blocks yourself. Here are instructions to guide you:

- Download the file `codeblocks-17.12mingw-setup.exe` from the Software folder under Resources on Sakai.

- Visit the website `https://www.cprogramming.com/code_blocks/` for instructions on how to install Code::Blocks and MinGW (follow step 2). Code::Blocks is the IDE used in this course. The compiler we use is g++ which is installed when you install MinGW.

First basic program

Now follow step 3 on the same web page (`https://www.cprogramming.com/code_blocks/`) to set up your first programming application. You will need to follow these steps every time you start a new programming task.

MinGW (GCC)

The DLab computers already have MinGW installed. However if you have your own computer and are running Windows, follow the instructions below to install MinGW.

1. Download the file `mingw-get-setup.exe` from Sakai. Once it has downloaded double click on the file to open it and start the installation.

2. Click 'Install' and accept all default options.

Submission

This lab does not require any submission. You should use this lab session as an opportunity to get familiar with the software tools you will be using throughout the course.