Homework 1: Building ICS-OS

Objectives

At the end of this activity, you should be able to:

1. build the ICS-OS kernel and disk image;
2. run ICS-OS in QEMU and
3. run two ICS-OS commands.

1 Introduction

ICS-OS[1] is an instructional (not for production) operating system that can be used for understanding different operating system concepts. An operating system is no different from other software in that it is written in a programming language, such as C. Later in the course, you will be modifying portions of the source code of ICS-OS to apply and observe various operating system concepts. The tasks in this homework are from the ICS-OS Kernel Developer's Guide[2].

2 Deliverables

Perform the tasks below and capture screen shots. Submit a PDF file containing the screen shots.

3 Tasks

Task 1: Install dependencies

```
$sudo apt-get update
$sudo apt-get install build-essential nasm qemu-kvm tcc git gcc-multilib
```

Task 2: Clone the repository

```
$git clone https://github.com/srg-ics-uplb/ics-os.git
$cd ics-os/ics-os
```

Task 3: Build

Building the source code for the kernel and the distribution disk is accomplished using make. Make sure you perform steps 2-4 every time you make changes in the source code.

```
$make clean
$make
$make floppy
```

[1] https://github.com/srg-ics-uplb/ics-os/
[2] https://github.com/srg-ics-uplb/ics-os/wiki/Kernel-Developer's-Guide

Task 4: Run

```
$make run-floppy
```

Task 4: Run ICS-OS commands

Once the ics-os command prompt appears, type help. Examine the list of commands and run two commands.