**HOMEWORK 1, CS350 – Operating Systems**

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**Due Date: 3. March.2019, Sunday, 23:55 (20 pts)**

**Prerequisites: Linux Environment**

- Download and Install Oracle VirtualBox (or VmWare WS Player)
- Download Ubuntu Linux 18.xx ISO image and Install the machine as a VM
- Practice with the following Linux commands in the terminal
  a. ls, cd, mkdir, rmdir, pwd, nano, pico, cat, grep,
  b. su, sudo, passwd, chmod, apt-get install

1. **C: "Hello World!" And "Hello Driver" (5 pts)**
   - Write a C file (**hello.c**) that prints "Hello World!" to the screen
   - Write a C driver (**hello_driver.c**) that prints "Hello World!" to the Kernel log
   - Write a single **Makefile** that compiles both

2. **System Calls (5 pts)**
   - Write a C program (**getpid.c**) that uses both kernel syscall "SYS_getpid" and C library function getpid() to print the process id of the program when you compile and run it. Compare the results.

3. **You will implement a simple C database called "ozudb" (10 pts)**
   - Ozudb (**ozudb.c**) has 6 commands: **C** (Create table), **R** (Read file), **A** (Append new person), **D** (Delete a person), **P** (Print table), **E** (Exit)
   - In your program you will create a simple 5 row People table as "**struct person People[5]**", therefore you need to define a C "**struct person**" (in **person.h**) with 3 fields <id, firstname, lastname>
   - You will also import data from the "**People.csv**" file which contains <id,firstname,lastname>.
   - Your program should run until the user enters **exit(E)** command. Do the following steps and **print table(P)** after each step:
     1. Create the ***People*** table
     2. Read data from ***People.csv***
     3. Append **yourself** and one more person into the table.
     4. Delete the entry with the ***id 3*** (*3, Dummy, Person*)
     5. Exit from the program and **take the screenshot** of the terminal. **Include** the **screenshot** in your submission.

**SUBMISSION GUIDE:**

- Create a folder "<studentid>_hw1" and put all your files (names with **bold blue**) in that folder.
- Compress the folder using the following command. Change the student id accordingly.
  - **tar -zcvf <studentid>_hw1.tar.gz <studentid>_hw1/**
  - ***i.e.*** *tar -zcvf s000001_hw1.tar.gz s00001_hw1/*
- **Upload the tar.gz file to LMS.**