HOMEWORK 1, CS350 – Operating Systems
Instructor: Dr. Ismail Ari, ismail.ari@ozyegin.edu.tr
Due Date: 26.March.2022, Saturday, 23:55 (10 points)
Assistants: muhammad.kashif@ozu.edu.tr , majd.latah@ozu.edu.tr

Prerequisites:

- C programming environment: *e.g.* Ubuntu Linux, editor (nano, gedit, vi) and gcc for compiling.

1. "Hello Driver" C kernel program. Implement and submit these 3 files. (3 points)

- File1: Write a Linux Kernel Loadable Module (KLM) *aka. device driver* (**hello_driver.c**) that prints "Hello World!" to the *Kernel log (printk)*. You can find this code in your slides. Just type & compile.

- File2: Write a **Makefile** that compiles the driver. Use lsmod, insmod, rmmod commands to install it.

- File3: Use **dmesg** command and take a screenshot of your "Hello" messages in kernel (**dmesg.png**)

2. Implement a simple game called "What to eat today?" using C language (4 pts + 3 pts)

- **Motivation:** Some days people living together try to decide what food to order home or dorm room. To avoid this confusion, you decide to turn this situation into a democratic **What2Eat.c** game program.

- **For the first round:** Your program gets the number of people and asks them one-by-one to make 5 choices in order of their preferences (*e.g.* 1-Kebab, 2-Burger, 3-Pasta, 4-Lahmacun, 5-Salad or others). Your program automatically assigns points to the ordered choices (e.g. Kebab:5, Burger:4 and so on). It calculates the total points and prints a **short list** of preferences that are above a predefined threshold value (e.g. 10). If no choices pass the threshold, you print "You are eating at home/dorm today!" and exit.

- **For the second round:** You ask all players to choose and order their choices **from the short list**. You add the scores again and print them to screen. The food that gets the top point is ordered.

- **Note:** You can choose to "simulate" choices by randomly assigning them from a list, you can print a numbered list of items and ask for numeric choices, or you can read - scanf()- any string you like.

- **BONUS (+1 pts):** Adding a GPL license to your code, putting it on Github and providing a link to it in your homework.

SUBMISSION GUIDE:
- Create a folder "cs350_hw1_studentid" and put all your files in that folder.
- Compress the folder using the following command. Change the student id accordingly.
- **tar –zcvf cs350_hw1.tar.gz cs350_hw1_studentid/**
- Upload this tar.gz file to LMS Homework1.