



# Operating System Concepts

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# Homework 2– Compile the Linux Kernel

# Process for Compiling Kernel

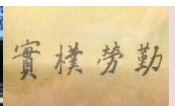
- ▶ Install Required Tools and Packages
  - e.g., build-essential, fakeroot, ...
- ▶ Download the Linux Kernel Source Code
  - from the Linux distribution you used or from <https://www.kernel.org/>
- ▶ Extract the Downloaded Source Code
- ▶ Configured the Linux Kernel
- ▶ Compile the Linux Kernel
- ▶ Install the New Kernel





# Requirements

- ▶ Use “uname -r” to check your kernel version
- ▶ Download the source code of your current kernel
- ▶ Compile and install it
- ▶ Use uname -r to show the new kernel



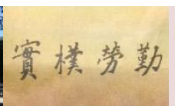
# Report

1. The steps for your implementation
  2. The problem you met, and how you solved it
  3. **The reference of this homework**
- The report is limited within 4 pages in PDF



# Grading

- ▶ Implementation
  - The screenshots of the compiling process 30%
  - Boot the new kernel 30%
- ▶ Report
  - 20%
- ▶ Bonus
  - Study your bootloader, e.g., GRUB 2
    - Modify the default kernel for booting 5%
    - Modify the list of kernels in the GRUB menu 5%
  - Download, compile and install Linux 6.0 10%
- ▶ Demo Q&A
  - 20%



# Submission

- ▶ Homework 2 deadline: at 20:00 on 2022-10-25  
**➔NO DELAY!**
- ▶ Upload to e-learning system
- ▶ The title of the report: OSHomework2StudentID
- ▶ **Point deduction for wrong format: 10%**

**➔DEMO will be arranged!**

