# Computer Architecture
# CS-211

Spring 2017 | Recitation

Abu Shoeb

# Agenda

- Programming Assignment 1
- Tar and Untar a file/directory
- Makefile
- Autograder
- Submission on Sakai

# Tar/Untar a File/Directory

**How to tar:**

- Go to the parent directory of pa1
  - $ tar cvf pa1.tar pa1
- Another example
  - $ tar cvf myfiles.tar dir1 dir2 file1 file2

**How to untar:**

- Go to the directory where you have .tar file
  - $ tar xvf pa1.tar

c: Create archive
v: Verbose i.e display progress while creating archive
f: Archive File name i.e the name of the archive file
x: means extract files from the archive
z : Compress archive using gzip program

# How to Makefile!

Run a makefile
        $ make
Clean a makefile
        $ make clean
If you have several make files
        $ make -f YourMakeFile

Basics of Makefile
- target: dependencies
- [tab] system command

Example
all:
        gcc -Wall -Werror -fsanitize=address first.c -o first

# Help on Makefile

Youtube : https://www.youtube.com/watch?v=kGGE8mtrbrM
Blog : http://mrbook.org/blog/tutorials/make/

Please remember the following tips:
- Makefile doesn't have any **file extension**
- Default name of the Makefile for any project is **Makefile** (it is not strict but recommended)

**TAB** must be placed before each command written in Makefile
- If you do not place TAB correctly in your Makefile, you may encounter errors.
- You can check the TAB key in any editor.
    - In Linux/Mac, open your Makefile in vim editor then press ESC then type "set list" and hit ENTER. It should show the TAB as "^I".
    - In Windows, open your file using Notepad++ editor. Then go to View --> Show Symbol --> Show All Characters. In place of TAB, you should see "-------->". If you don't see this characters in place of TAB, then you should correct your make file.

# Run Auto Grader - 1

```
pa1
        |- first
                |-- first.c
                |-- first.h (if
used)
                |-- Makefile
        |- second
                |-- second.c
                |-- second.h (if
used)
                |-- Makefile
        |- ninth
                |-- ninth.c
                |-- ninth.h (if
used)
                |-- Makefile
```

```
autograder
pa1
                         |- first
                                  |--
first.c
                                  |--
first.h (if used)
                                  |--
Makefile
                         |- second
                                  |--
second.c
                                  |--
second.h (if used)
                                  |--
Makefile
                         |- ninth
                                  |-
ninth.c
                                  |--
ninth.h (if used)
                                  |--
Makefile
```

# Run Auto Grader - 2

Untar autograder.tar
        $ tar xvf autograder.tar

Copy pa1 into autograder directory
        $ cp -r pa1 autograder

Go to autograder directory
        $ cd autograder

Run autograder
        $ python auto_grader.py

# Thanks!

Any questions?