



# Computer Architecture

## CS-211

Spring 2017 | Recitation  
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# 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
```

# 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?