

## Lab/Project Submission Instructions (this does NOT apply to Homework unless otherwise directed)

1. If the Lab/Project has you answer any questions, create a text file named `ans.txt` (note that the filename is lowercase!). It should be an ASCII text file like `Notepad` or `xemacs` creates ... not a `WORD .doc` document, not an `Adobe .pdf` file, etc. The first line of the file should be the filename. The next line should be your `LastName` and `mAlpha`. Put ALL question answers in the one file `ans.txt`, indicating what part of the lab the question came from. For the rest of these instructions we'll assume you're submitting Lab 12:

```
ans.txt
Gish m091234
Part 3: (your answer here)
Part 5: (your answer here)
```

Name of file.

Your `LastName` and `mAlpha`.

All of your answers.

This file will be submitted along with your other files.

2. All submissions of code that is to be compiled MUST have a makefile named `Makefile` (not `makefile`: note the uppercase!):

```
# lab12
# Gish m091234

TARGETS = foo bar foobar
all: $(TARGETS)

clean:
    rm -f *.o *~ $(TARGETS)

foo: foo.h foo.c someobj.o
    gcc -g -o foo foo.c someobj.o

bar: bar.h bar.c
    gcc -g -o bar bar.c

foobar: foobar.h foobar.c
    gcc -g -o foobar foobar.c
```

The first two lines of `Makefile` must be comments: `# lab12` and `# LastName mAlpha`.

The next line must be a *macro* named `TARGETS` (all uppercase) that lists the names all of the executable files (programs) to be built.

The next line must be a *target* named `all` (all lowercase). It builds all of the executables.

The next line must be a *target* named `clean` (all lowercase) with the rule as shown.

The next lines should be all of the

```
target: dependencies
      rules
```

needed to build the executable files.

3. The tar file that is created when you use `submit` should have as its contents **ONLY** your answers file (`ans.txt`), your `Makefile`, and the files listed as dependencies in your `Makefile`. This will usually only be source code files (`.c`) and header files (`.h`), with the rare case where your project also depends on object code (`.o`) we have given you. In the latter case you should also submit the `.o` file(s) since it's needed by `make`. DO NOT submit any data files unless we explicitly ask you to!

4. Create a directory named `lab12`. The name should be all lowercase, and the lab number should have no leading zeros (i.e., `lab3` would be correct but `lab03` would be wrong). Copy or move all of the files described in (3) above into this directory. Change directory (if necessary) to `../lab12`, ... i.e., the directory one level *higher* than `lab12`. Execute this command:

```
$ /courses/stahl/etc/submit lab12
                        ↑ this is a space
```

Note that `lab12` is just the name of the directory to be submitted - NOT an absolute pathname. For example, this would be WRONG:

```
$ /courses/stahl/etc/submit /home/m091234/IC221/labs/lab12
-----
Don't use the absolute path name!
```

... and this would also be WRONG, because the trailing slash / shouldn't be there:

```
$ /courses/stahl/etc/submit lab12/
                                ↑
                                no trailing slash!
```

... whereas the following would be correct:

```
$ cd /home/m091234/IC221/labs <= one level higher than lab12
$ ls
lab10/ lab11/ lab12/          <= here's the lab12 directory
$ ls lab12                    All (and ONLY) the files to be submitted are in the lab12 directory:
foo.h foo.cpp bar.h bar.cpp foobar.h foobar.cpp someobj.o ans.txt Makefile
$ /courses/stahl/etc/submit lab12 <= correct!
                        ↑ this is a space
```

**WARNING:** If you previously submitted the same lab, `submit` will ask if you want to continue, which *deletes the previous submission*. If you say no, the submission will abort and your previous submission will still be there. Only the most recent submission will be saved/graded.

If the results of `submit` show a tarfile size that is 0 or 1024, you did it wrong:

```

↓
-rw----- 1 m091234 mids      0 Oct 7 23:38 m091234.Jan_22_2007.23_38_30.tar  WRONG
-rw----- 1 m091234 mids  1024 Oct 7 23:39 m091234.Jan_22_2007.23_39_11.tar  WRONG
-rw----- 1 m091234 mids  68608 Oct 7 23:38 m091234.Jan_22_2007.23_44_07.tar  OK
```

Why are these instructions so explicit? Because your Lab/Project submissions are processed by a shell script that assumes common filenames. The script:

- Untars your most recent submission, creating a file named `m09xxxx.tar.txt` that lists the files you submitted.
- Renames `ans.txt` as `m09xxxx.ans.txt`.
- Copies test data files to the submission directory that was just untar'd.
- Builds your Lab/Project using the command: `make clean; make all`. Compiler output text, including warnings and errors are sent to a file named `m09xxxx.make.txt`
- Runs your program(s) using the test files, recording text written to `stdout` and `stderr` in a file named `m09xxxx.run.txt`
- Prints `Makefile`, `*.h`, `*.c`, `m09xxxx*.txt`

Your source code printout is then examined and marked up by hand.