CSCI 4061

Discussion week 3

Overview

- Makefile
- gdb
- man pages
- Exercise/Quiz

Makefiles

- Code compilation organization
- List targets, their dependencies, and compilation instructions
- Targets are the names of compilation tasks we wish to complete
- Dependencies are source files and other compiled files which are required to compile a target
- Can also define a target for 'clean' which will remove compiled files

Example

```
target: dep.o

    gcc dep.o -o target

dep.o: dep.c lib.h

    gcc -c dep.c

clean:

    rm *.o target
```

gdb

- GNU Debugger tool

- `gdb prog` – Start gdb examining program `prog`

- `break <line number>` – Set a breakpoint at line `line number`

- `run [<args>]`– Begin execution of the program, optionally with arguments `args`

- `print <var>` – Print the value of variable `var`

- `watch <var>` – gdb will pause and display information when the value of the variable `var` is updated

man pages

- Used for reading documentation on existing functions
- Ex: 'man printf' will give the documentation on the printf function

Today's Task

- Quiz on Canvas, due 11:59 Tuesday

- Lab Exercise:
    - The files a.c and b.c contain some basic functions
    - The files *.h contain additional functions used in a.c and b.c
    - Your task is to complete the Makefile to compile the program 'main' when 'make main' is executed