



Computer Architecture

CS-211

Spring 2017 | Recitation
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Agenda

- Programming Assignment 1
 - Matrix Multiplication
 - Binary Search Tree
- GDB – GNU Debugger

Matrix Multiplication

- In order to multiply two matrices, A and B, the number of columns in A must equal the number of rows in B. Thus, if A is an $m \times n$ (row X col) matrix and B is an $p \times q$ matrix, $n = p$.
- Resultant matrix will be $m \times q$
- Help:
<http://www.math.nyu.edu/~neylon/linalgfall04/project1/dj/propofmatrix.htm>

GDB

- Provides extensive facilities for tracing program execution
 - Step through program line at a time
 - Monitor / modify internal variables
- You need **to compile** your code with **-g**
\$ gcc -g foo.c -o foo.o

GDB Commands 1

- Use gdb after compiling : `$ gdb [executable program name]`
- Debug : `(gdb) run`
- End debugging : `(gdb) q` or `quit`
- Observe source code : `(gdb) list` or `list 10`
- Change the number of lines : `(gdb) set listsize [num]`
- Setting breakpoints:
 - `(gdb) break [function name]`
 - `(gdb) break [line num]`
- Clearing breakpoints
 - `(gdb) clear [function name]`
 - `(gdb) clear [line num]`
 - clearing all breakpoints : `(gdb) delete`

GDB Commands 2

- Printing variables
 - (gdb) print [variable]
 - (gdb) display [variable]
- Going step by step
 - (gdb) next
- Using GUI
 - gdb -tui [executable file]

Thanks!

Any questions?