Objectives for 9/8/2017 (Fri)

- Addresses of functions
- Struct types
  - `struct { ... };
  - `typedef struct { ... }`;

Announcements:
- **Quizzes:** There will be ≈6-8 graded quizzes this semester. The number is not predetermined. They may be announced or unannounced. Expect 1-2 quizzes in the lectures preceding an exam.
  - Everyone is expected to attend every lecture. However, if personal circumstances prevent that, email me before the lecture, and if there is a quiz, I will arrange a make-up. Those who do not email me ahead of time will not be given a make-up.
- **Exams**
  - Midterm #1: October 5 @ 8pm in EE 129
  - Midterm #2: November 9 @ 8pm in WTHR 200
  - Final: TBA

Email me ASAP if you have a conflict with either of those exam dates.
Containers

Variable

Array

Struct

struct as containers

char x

char [3] y

int x

int y

char *name

"hat"

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When your program loads:

- Reads exe and "exe" : executable (aka binary)
- Takes binary and loads into text segment of memory
- gcc ... -o main

- __start  ⇒ main ()

Sets program counter to first instruction in main().

Do main() next.
To declare a variable as addr of fn:

```
void (*a-fn)();
```

- **void**: return type
- `(*a-fn)()`: name of variable (fn addr)
- `();`: types of parameters the fn takes.
void print5();
void (*a_print5)();
print5();
a_print5();
(*a_print5)();

"a_print5 is an address of a function taking no parameters and returning void."

double foo(char c, int i);
double bar(char x, int y);
double (*a_forb)(char, int);
double d = foo('a', 5);
double d = a_forb('a', 5);
double d = (*a_forb)('a', 5);