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1 Topic Summary

1.1 Architecture

- registers
- program counter
- condition codes
- status codes
- processing cycle
- pipelining
- forwarding
- cutting in line
- out-of-order execution

1.2 Assembly

1.2.1 Labels

- `.global` labels
- `%eax` being set to zero
- section of assembly code (`.section`)

1.2.2 Program Basics

- why we need `push %rbp` to call `puts@plt`
- `push %rbp` and then `mov %rsp, %rbp`
- subtracting 8 from base pointer and then adding it back at the end
- what does `lea var(%rip)` do exactly
- what does `leave` do
- what does `ret` do
- order of registers for arguments to functions
- multi-register operations

1.2.3 Variables

- `int x 0, 0`
- `plt`
- position independent code
- `got` (global offset table)

1.2.4 Important Commands

- `syscall` vs `call`
- `call` functions
- jumps
- loops using labels