Computer Architecture

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Lab 3

Lab 3 – More Assembly

This lab we will try to use the things we have learned on two programming exercises. As a general hint if you get stuck, think about how you would solve the problem with regular programming, and then try to translate that to assembly.

1. Guessing Game

Objectives:

- Write a program where the user tries to guess a number. After each wrong guess the program tells the user if the guess was above or below the target, until they guess correctly.
- When the user guesses correctly, it prints the number of guesses used.

Hint:

- *Use the read and write syscalls from the previous exercise*.

2. Fibonacci

Objectives:

- Write a recursive function that takes an input *n* and outputs the *n*th fibonacci number, i.e. *fib*(1) = 0, *fib*(2) = 1, *fib*(n) = *fib*(n-1) + *fib*(n-2).

Extra: Use /dev/urandom to get a random number between 0 and 100 to use for task 1.