

# Computer Architecture

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## Lab 5

### Lab 5 – Introduction to C

This Lab is mainly dedicated to make you feel comfortable with C and the according pipeline from writing, compiling to debugging. You will basically learn how to write a small program and how to output various types of variables which you will need later on quite a lot.

#### 1. Implement Hello World

Objectives:

- Reproduce the small “Hello World Program” you have just seen
- Compile and run the program

#### 2. Debug your Program

Objectives:

- Write a small program calculating  $z = x + 3 * x / (y - 4)$  without outputting it.
- Use the GNU debugger in order to retrieve the value of z.

Hint:

- Don't forget to include the debug-symbols when compiling

#### 3. Simple I/O

Objectives:

- Write a small program calculating  $z = x + 3 * x / (y - 4)$  using float.
- Read x and y from stdin.
- Calculate the result and output one line: “The result for  $x = \langle x \rangle$  and  $y = \langle y \rangle$  is  $\langle z \rangle$ ”
- Here, replace  $\langle x \rangle$  and  $\langle y \rangle$  with the actual numbers entered, and  $\langle z \rangle$  with the result with 4 digits after the radix point.