RA FS 21 Serie 0

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This assignment provides general information about the tutoring hours and some preparation for the programming exercises. You do not need to hand in this assignment. Questions or problems should be discussed with the tutors as soon as possible, we will be happy to help.
Have fun!

Tutoring hours

The tutoring hour takes place Tuesdays from 15-16 p.m. There will be five regular biweekly assignments composed of two parts, a theory part and a practical programming part. The programming part will, in the first 3 assignments, cover the topic C programming and then twice the topic of Assembler programming.

Both theory and programming parts will be graded with points. In the programming part, depending on the correctness and quality of your work, you will obtain 0, 0.5 or 1 point.

To be admitted to the exam, you will have to fulfill the following requirements:

- 60% in each of the theory part *and*
- 4 out of 5 points in the programming exercises

You can solve the assignments on your own or in a team of two. There will a repetition assignment for individual exam preparation, which will not have to be handed in. If you have questions regarding the lecture or assignments you can always post them in the forum on ILIAS.

C

In order to solve the C programming exercises you need to have a working installation of `make` of the GNU C compiler `gcc` (version ≥ 4.0). [1]

If you use your private devices make sure that you have a correctly working installation. Please take account of the following hints. Use the forum to post your questions should any arise.

> **Hint:** A simple and fast solution is to install a Linux distribution (i.e. Ubuntu, `http://www.ubuntu.com/`) in a virtual machine (i.e. VirtualBox, `http://www.virtualbox.org/`).

Linux `http://gcc.gnu.org/`

Mac OS X `https://developer.apple.com/xcode/`

Windows `http://www.mingw.org/` oder `http://www.cygwin.com/`

Please make sure that you can compile the following example program[2] using a command prompt and a direct call of the compiler as well as using `Makefile`. You will need the following commands (on a Unix-based OS):

Compiler `gcc -std=c99 -pedantic -Wall -o helloWorld helloWorld.c`

This command should generate an executable file named `helloWorld`

Execute `./helloWorld`

This command should execute the file `helloWorld` and output "Hello, world!"

[1] You can check the version of your GNU C compiler using `gcc -dumpversion`.
[2] You can find it as a download on ILIAS

Makefile `make`

This command should also generate an executable file named `helloWorld`

Clean `make clean`

This command should delete the file `helloWorld`

helloWorld.c

```
#include <stdio.h>

/* A simple "Hello, world!"*/
int main(int argc, char **argv)
{
  printf("Hello, world!\n");
  return 0;
}
```

Makefile

```
CC = gcc
CFLAGS = -ansi -pedantic -Wall

main: helloWorld.c
	$(CC) $(CFLAGS) -o helloWorld helloWorld.c

clean:
	rm -f helloWorld
```