Exercise 4 : Libraries

Exercise 4.1 : Using Libraries

In numerous situations the functionality you need to use is placed in a library for everyone to use.
A lot of commandline programs are pretty boring from a TUI point of view.
Just simple read lines and printfs nothing fancy. Sometimes, though, one would like it to be more fancy. This is where ncurses may help out.

Find the hello world program or something similar on their web page http://tldp.org/HOWTO/NCURSES-Programming-HOWTO/ and remember to link with their library (how, is also shown on their web page).
Their hello world program is nothing fancy, but it illustrates some simple features and importantly forces you to link a library to your program.

Pick out one of your already created makefiles and modify it such that you may link and afterwards run the program.

- How do you link a library to a program?
- When linking a library to a given program one obviously need to know the name of the file. However, is the name of the file as found on the disk exactly the same characterwise as when supplying it to gcc?

Do note that the library may not be installed. In that case, you need to install the ubuntu package libncurses5-dev.

Turns out that the Ncurses libraries are already installed

We found the "Hello World !!!"-program at:
http://tldp.org/HOWTO/NCURSES-Programming-HOWTO/helloworld.html

We changed our Makefile so that it uses the Ncurses library:

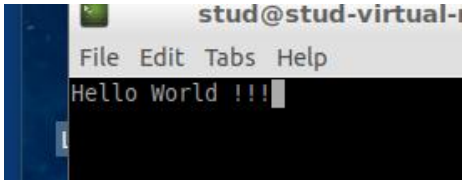
```
CXXFLAGS =-I -lncurses

${BIN_NAME}:${OBJECTS}
    @echo "[Linking] "$@
    @${CXX} ${LDFLAGS} ${OBJECTS} -o ${OUTPUT}/$@ -lncurses
    @echo "done, executeable is located @ "${OUTPUT}/$@
```

By simply using Make, the executable is generated:

```
stud@stud-virtual-machine:~/ISU/i3isu_e2018_hal9000/Lecture1_exercises/Exercise4
$ make
[Compiling] build/Hello.o
[Linking] Exercise4
done, executeable is located @ build/Exercise4
stud@stud-virtual-machine:~/ISU/i3isu_e2018_hal9000/Lecture1_exercises/Exercise4
$ ls
build  Hello.cpp  Hello.cpp~  Makefile  Makefile~
stud@stud-virtual-machine:~/ISU/i3isu_e2018_hal9000/Lecture1_exercises/Exercise4
$ cd build
stud@stud-virtual-machine:~/ISU/i3isu_e2018_hal9000/Lecture1_exercises/Exercise4
/build$ ./Exercise4
```

When running the executable:



Filer

make_stuff.png	40,2 KB	2018-09-10	Brian Nymann
proof.png	10,5 KB	2018-09-10	Brian Nymann