Laboration report 1

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```
#       +--------------------------+
#       |  Adress of bytearr     | -24
#       +--------------------------+
#       |  Adress of Wordarr   | -20
#       +--------------------------+
#       |            m               | -16
#       +--------------------------+
#       |            r               | -12
#       +--------------------------+
#       |            y               | -8
#       +--------------------------+
#       |            x               | -4
#       +--------------------------+
#       |    framepointer         | -0
#       +--------------------------+
#       |     Return adress       |  4
#       +--------------------------+
```

When we build the stack we save only the x variable, frame pointer, stack pointer, return address, wordarr and bytearr and leave the others empty. When we later deconstruct the stack we store the other y,r,m variables in the stack so we always get the right set of variables when we do the addition operation. We also build the stack on the codgen subroutine, however we don't need to store anything in it on this assignment so we deconstruct it ju before we jump back to the return address.

We have learned more deeply how to use the stack to save variables that are used during a subroutine call. We have also increased our knowledge about how the return values and calls work.

The most difficult part of the lab was to get everything to work as i should(the basic structure of the program, we found out quite fast, but then to make the program decode the words in a correct way was a pain.)
We used SyncSim during both the writing and debugging of the program. It helped very much as we could step through the programs process and study it the program behaved as we instructed it to do.

It took 36073 clock cycles to run through the program.