Uitwerkingen opdrachten week 1

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GitHub link: https://github.com/koentjehh/cpse-1/tree/master/assignment-1

1.2 print_asciz.asm

```
.cpu cortex-m0              @ de CPU van de Arduino Due
.align 2                   @ zorgt dat adres veelvoud is van 2^2
.global print_asciz        @ functienaam extern beschikbaar stellen

print_asciz:
      push { r5, lr }
      mov  r5 ,r0
loop:
      ldrb r0, [ r5 ]
      add r0, r0, #0
      beq done
      bl uart_put_char
      add r5, r5, #1
      b loop
done:
      pop { r5, pc }
```

1.3 application.asm

```
.cpu cortex-m0
.align 2
.global application

hello:
      .asciz "Hello world, the ANSWER is 42! @[]`{}~\n"
application:
      push { r5, lr }
      ldr r0, =[hello]
      bl print_asciz
      pop { r5, pc }
```

1.3 toggle case in C++

```cpp
extern "C" char invert_char( char s ){
    if( s >= 97 && s <= 122 ){ // kleine letters
        s = s - 32;
        return s;
    }
    else if( s >= 65 && s <= 90 ){ // hoofdletter
        s = s + 32;
        return s;
    }
    return s;
}
```

1.4 toggle case in assembler

```asm
.cpu cortex-m0
.align 2
.global invert_char

invert_char:
    push { r5, lr }
    mov r5 ,r0
    cmp     r0, #97
    bgt is_klein
    bl is_groot
is_klein:
    cmp r0, #122
    ble klein_naar_groot
    bl is_groot
is_groot:
    cmp r0, #65
    bge groot_naar_klein
    bl done
klein_naar_groot:
    sub r0, r0, #32
    bl done
groot_naar_klein:
    cmp r0, #90
    bgt done
    add r0, r0, #32
    bl done
done:
    pop { r5, pc }
```

Referenties

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