



**Computer architecture**

ARM assembly

# ARM

<https://cpulator.01xz.net/>

# Choose a system to simulate

## Architecture

Any  
Nios II  
ARMv7  
MIPS32r5  
MIPS32r5 (no delay slots)  
MIPS32r6  
MIPS32r6 (no delay slots)

## System

ARMv7 generic  
ARMv7 DE1-SoC  
ARMv7 DE1-SoC (v16.1)  
Nios II generic  
Nios II DE1-SoC  
Nios II DE1-SoC (v16.1)  
Nios II DE2-115

<https://cpulator.01xz.net/?sys=arm-de1soc>

Go

# Demo examples:

```
.global _start
_start:
    mov r2, #13
    mov r3, #14
    add r0, r2, r3
_stop:
    b _stop
```

# Demo examples:

```
.global _start
_start:
    mov r2, #13
    mov r3, #14
    add r0, r2, r3

    mov r7, #1
    mov r10, #3
    svc 0
```

# Demo examples:

```
.global _start
_start:
main:
    mov    r0, #0
loop:
    cmp    r0, #512
    beq    end
    add    r0, r0, #1
    b loop    /* repeating the loop */

_stop:
    b _stop
```

# Fix:

```
.global _start
_start:
    mov r2, 13
    mov r3, 14
    add r0, r2, r3
_stop:
    b _stop
```

# Fix, use hex

```
.global _start
_start:
    mov r2, 13
    mov r3, 14
    add r0, r2, r3
_stop:
    b _stop
```



# Tasks

Fix errors in examples

Create a loop that will count from 0 to 1024 in register R10



**Thank you for  
your attention!**