

1. add x5, x7, x6

addi x5, x5, -5

~~2. Zdefiniuj, że a, b, c znajdują się już w x2, x3, x4, a wynik w powinno znaleźć się w x1.~~

2. x1 = x2 + x3 + x4;

3. add x5, x5, x10

lb x5, 0(x5)

sb x5, 8(x11)

4. x12  $\Rightarrow$  A[0J]

x6  $\Rightarrow$  i

x30  $\Rightarrow$  A[8J]

x31  $\Rightarrow$  A[0 + x6J]

A[iJ] = A[8J] + x5;

5. opcode 0x3  $\Rightarrow$  LOAD

funct3 = 0x2  $\Rightarrow$  lw

rs1 = 27  $\Rightarrow$  x27

rd = 3  $\Rightarrow$  x3

imm = 0x4  $\Rightarrow$  4

lw x3, 4(x27)

imm, rs1, funct3 rd opcode

000 000 000 100 | 11011 | 010 | 00011 | 0000011

Przerwy u kodzie tylko dla czytelności.

7. opcode = 0110011  $\rightarrow$  format R

rd = 00001  $\rightarrow$  x1

funct3 = 000  $\Rightarrow$  add

funct7 = 0000000

rs1 = 00001  $\rightarrow$  x1

rs2 = 00001  $\rightarrow$  x1

Instrukcja to:  
add x1, x1, x1



6.  $sw \ x5, 32(x30)$

opcode = 0100011 format S

imm = 32 = ~~0010~~...0100000

rs1 = 30 = 0...011110

rs2 = 5 = 00101

funct3 = 010

kod: 0000001 | 00101 | 11110 | 010 | 00000 | 0100011

8.  $x5 = 0x0000aaaa$

$x6 = 0x12345678$

$x7 = ?$

a)  $slli \ x7, x5, x4$

$x7 = 000aaaaa0$

or  $x7, x7, x6$

$x7 = 0000 | 0000 | 0000 | 1010 | 1010 | 1010 | 1010 | 0000$

$x6 = 0001 | 0010 | 0011 | 0100 | 0101 | 0110 | 0111 | 1000$

$x7 \text{ or } x6 = 0001 | 0010 | 0011 | 1110 | 1111 | 1110 | 1111 | 1000$

b)  $srlr \ x7, x5, 3$

$x7 = 0000 \ 0000 \ 0000 \ 0000 \ 0001 \ 0101 \ 0101 \ 0101$

$and \ x7, x7, 0xfef$

$x7 = 0000 | 0000 | 0000 | 0000 | 0001 | 0101 | 0101 | 0101$

$0xfef = 1111 | 1111 | 1111 | 1111 | 1111 | 1111 | 1110 | 1111$

~~and~~  ~~$x7$~~

$x7 \text{ and } 0xfef = 0000 | 0000 | 0000 | 0000 | 0001 | 0101 | 0100 | 0101$