

hw 3

1. opcode: 0010011 rs1 = 01010 rd = 11110

imm: 000000001000 fun3: 000

2) op = 0010011 rs1 = 01010 rd = 11111

imm: 000000000000 fun3: 000

3) op: 0100011 rs1: 11110 rs2: 11111 fun3: 011

4) op: 0000011 rs1: 11110 rs2: 11110 fun3: 011
imm: 000000000000

5) op: 0110011 rs1: 11110 rs2: 11111 rd: 00101

func7: 0000000

2. 1) $0x7fffffff > x_6 > 0x7fffffff7f$ ($2^{64}-128 \leq x_6 \leq 2^{64}-1$)

$0x80000000$

2) $\sqrt{x_6} \leq 0x80000081$ ($-2^{64} \leq x_6 \leq 128-2^{64}$)

3) $0x80000000 \leq x_6 \leq 0x80000080$ ($-2^{64} \leq x_6 \leq 127-2^{64}$)

3. (1). jal:

$$\text{max: } 0x20000000 + 0xffffe = 0x200ffffe.$$

$$\text{min: } 0x20000000 - 0x100000 = 0x1ffff000.$$

(2). beq:

$$\text{max: } 0x20000000 + 0xffe = 0x20000ffe.$$

$$\text{min: } 0x20000000 - 0x1000 = 0x1ffff000.$$

4. (1). int i=0;

do {

result += MemArray[i];

i++;

} while (i < 100);

(2).

addi x6, x0, x10

addi x29, x6, 400.

Loop: lw x7, 0(x10)

add x5, x5, x7

addi x10, x10, 4.

ble x10, x29, Loop.

5.

1)

ffff ff ff ff ff ff ff 88

\Rightarrow

0x ffffffff ffffffff 88

2).

11 00 00 00 00 00 00 00

\Rightarrow

0x 0000 0000 0000 0011

低地址 \rightarrow

高地址