

CODH 作业 2

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2.9

1. opcode: 0010011, rs1: x10, rd: x30, imm: 8, funct3: 0x0
2. opcode: 0010011, rs1: x10, rd: x31, imm: 0, funct3: 0x0
3. opcode: 0100011, rs1: x31, rs2:x30, imm:0, funct3: 0x3
4. opcode: 0000011, rs1: x30, rs2:x30, imm:0, funct3: 0x3
5. opcode: 0110011, rs1: x30, rd: x5, rs2:x31, funct3:0x0, fucnt7:0x00

2.24

1. 最终值为 20.
- 2.

```
int acc = 0, i=10;
while(i){
    i--;
    acc += 2;
}
```

3. 共执行了 $4n+1$ 条指令.
- 4.

```
int acc = 0, i = 10;
while(i >= 0){
    i--;
    acc += 2;
}
```

2.35

1. 0x11
2. 0x88

2.40

1. $CPI = 2 \times 0.7 + 6 \times 0.1 + 3 \times 0.2 = 2.6$

2. 性能提高 25% 后, $CPI = 2.6 \times 0.75 = 1.95 = x \times 0.7 + 6 \times 0.1 + 3 \times 0.2$,
解得 $x = 1.071$

3. $CPI = 2.6 \times 0.5 = 1.3 = x \times 0.7 + 6 \times 0.1 + 3 \times 0.2$, 解得 $x = 0.143$