



MAX CLK CYCLE IS 5

POW IT  
COUNT  
READ  
AS ACYCLE

Cycles

? → 5

.lw \$t0, 0(\$0)  
- LONG WORD: \$t = MEM[\$s + offset]  
- OP = 35, 100011  
- FUNCT = 100000

.sw \$t0, 31(\$0)  
- STORE WORD: \$t = MEM[\$s + offset]  
- OP = 101011  
- ALU = 216010

.add \$s0, \$t0, \$t4  
- \$s0 = \$t0 + \$t4  
- OP = 000000  
- ALU = 316011  
- FUNCT = 100000

.sub \$d, \$s, \$t  
- \$d = \$s - \$t  
- OP = 000000  
- FUNCT = 100010

.slu \$d, \$t, h  
- \$d = \$t << h  
- OP = 000000  
- FUNCT = 000000

.sra \$d, \$t, h  
- \$d = \$t >>> h  
- OP = 000000  
- FUNCT = 000011

.srl \$d, \$t, h  
- \$d = \$t >> h  
- OP = 000000  
- FUNCT = 000010

.sllv \$d, \$t, \$s  
- \$d = \$t << \$s  
- OP = 000000  
- FUNCT = 000100

.sraV \$d, \$t, \$s  
- \$d = \$t >>> \$s  
- OP = 000000  
- FUNCT = 000111

.srlV \$d, \$t, \$s  
- \$d = \$t >> \$s  
- OP = 000000  
- FUNCT = 000110

.mult \$s, \$t  
- \$t0 = \$s \* \$t  
- OP = 000000  
- FUNCT = 011000

.addi \$t, \$s, imm  
- \$t = \$s + imm  
- OP = 001000  
- FUNCT = 000000

**MOORE FWT**  
jal <label>  
- \$31 = PC, PC = {PC}[31:26], a  
- OPCODE = 000011  
jr \$s  
- OPCODE = 000000 (R 190)  
- FUNCT = 001000

der

s)

- \$t = \$s + imm  
op = 001000  
- Funct = 000000

loop: beq \$s0, \$s1, done

J loop  
done: nop

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·) loop #goto (see label  
- Jump: PC = {PC & 26, Jaddr}  
- op = 000010  
- Funct = X

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· beq \$s, \$t, Label  
- go to label if \$s = \$t  
- op = 000100  
- Funct = X  
- I type 2

