Exit\_quiz7\_Bruce\_Liu

1. The machine code for addi is a type I command.

Addi(source\_register),(base\_register),(offset)

The example addi $t5,$s1,0x5 decomposes to what is below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Decomposition of labels | Opcode (the code for the command given) | Rs(source register) | Rt(base register) | Address(Offset of memory location) |
| Type I has the format in 32 bits: | 6bits | 5bits | 5bits | 16bits |
| Example translation to hex | 0x8 | 0xd | 0x11 | 0x5 |

1. The machine code of the lw functions falls under type I.

lw (source\_register),(offset)((base\_register))

The example lw $t0,24($s2) decomposes to what is below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Decomposition of labels | Opcode (the code for the command given) | Rs(source register) | Rt(base register) | Address(Offset of memory location) |
| Type I has the format in 32 bits: | 6bits | 5bits | 5bits | 16bits |
| Example translation to hex | 0x23 | 0x8 | 0x12 | 0x18 |

6+5+5+16=32 bits