

## Logical Operations slide

Shift left  $\rightarrow$  1 shift is  $\times$  by 2

eg  $0000101 \rightarrow 5$

$0001010 \rightarrow 10$

Shifting 2 places is  $\times$  by 4

" 3 " " "  $\times$  by  $2^3$

Shifting right  $\rightarrow$  divide by 2

Format `[sl $t1, $s3, 2]`

## Control Instructions

- > Allow you to jump in your program.
- > <sup>Instructions</sup> Labels ~~will~~ help us do these jumps.

There are a no. of kind of

- > ~~2 kinds of~~ jump instructions,

slide

- > The ~~assembler~~ computer / assembler converts the instruction label into a 32 bit <sup>signed</sup> integer, which denotes the address of that instruction.
- > In assembly you write labels, leaving conversions to the assembler.