

# Verilog

## // Syntax

- Case sensitive so `var_a` and `var_A` are diff
- Comments (`//` or `/* */`)

## Number format

`[size]'[base-format][number]`

Size - written only in decimal to specify number of bits in the number.

base-format - can either be decimal (`'d` or `'D`) hexadecimal (`'h` or `'H`) and octal (`'o` or `'O`)

number - specified as consecutive digits from 0, 1, 2 ... 9 for decimal base format and 0, 1, 2 ... A ... F for hexadecimal

- Upper case letters are legal for number specifications when base format is hex

Ex - `3'b010;` // binary

`8'h70;` // hex

`16'hcafe;` and `16'hCAFE;` (valid)

## unsized

- Numbers without base-format specifications are by default decimal
- Numbers without size have a default number of bits depending on type of simulator



## Negative

- Negative numbers specified by placing - sign before the size of a number. Illegal to have - sign between base - format and number.

## Strings

Sequence of characters enclosed in double quote " "

## Identifiers

names of variables so that they can be referred later on.

made of alphanumeric characters (A-Z) (a-z) (0-9), underscores - or dollar sign \$ and are case sensitive.

- Cannot start with digit or dollar sign.

integer var\_a;   
 integer var\$a;   
 integer var23\_g;   
 } valid