Data Objects

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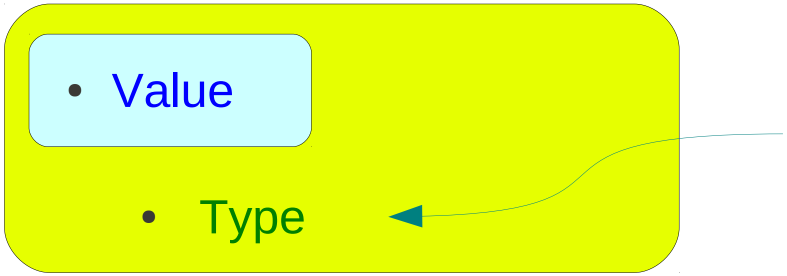
Data Object

Data Object



Set of values that the object can have +
Set of operations that are allowed

Classes of Data Object

- Constant – no change
- Variable – change without any delay
- Signal – change with a certain / delta delay

Classes of Data Object

To model the behavior of a circuit

- Constant – no change

  static : local to process, be held until the next process call

  can be declared in processes, procedures, functions, architectures

- Variable – change without any delay

  dynamic : not be held from one call to the next

  must be declared inside a process

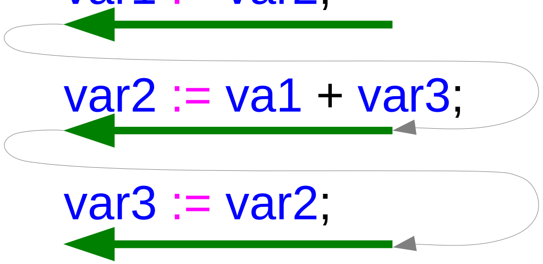
Represents wires in the schematic of a circuit

- Signal – change with a certain / delta delay

  must be declared outside a process

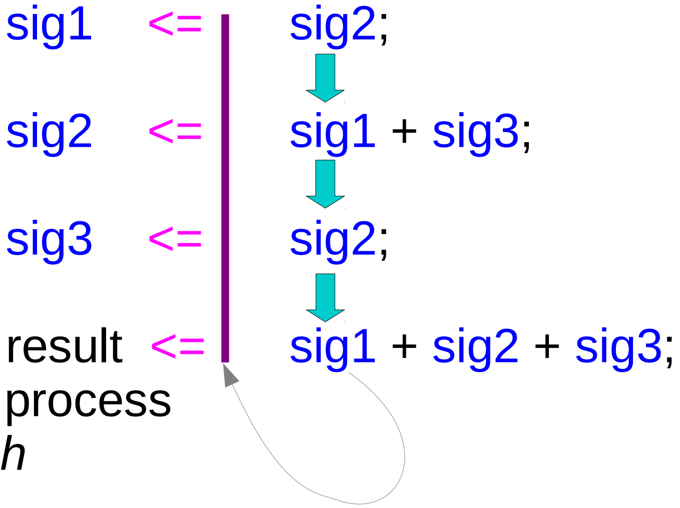
Variable Example

```
architecture varch of vent is
        signal trigger, result : integer := 0;
begin
        process
                variable var1: integer := 1;
                variable var2: integer := 2;
                variable var3: integer := 3;
        begin
                wait on trigger;
                var1 := var2;

                var2 := va1 + var3;

                var3 := var2;

                result <= var1 + var2 + var3;
        end process
end varch
```



Signal Example

```
architecture sarch of sent is
          signal trigger, result : integer := 0;
begin
          process
                    signal sig1: integer := 1;
                    signal sig2: integer := 2;
                    signal sig3: integer := 3;
          begin
                    wait on trigger;
```



```
                    sig1    <=    sig2;
                    sig2    <=    sig1 + sig3;
                    sig3    <=    sig2;
                    result  <=    sig1 + sig2 + sig3;
          end process
end sarch
```

References

[1] http://en.wikipedia.org/
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