

Example

Procedure

```
library IEEE;
use IEEE.STD_LOGIC_1164.ALL;

entity Adder is
    port (
        A, B: in std_logic;
        Sum: out std_logic
    );
end entity;

architecture RTL of Adder is
    procedure add_numbers(a: in std_logic; b: in std_logic; sum: out std_logic) is
    begin
        sum <= a xor b;
    end add_numbers;
begin
    process (A, B)
    begin
        add_numbers(A, B, Sum);
    end process;
end architecture;
```

Function

```
library IEEE;
use IEEE.STD_LOGIC_1164.ALL;

entity Adder is
```

```

port (
    A, B: in std_logic;
    Sum: out std_logic
);
end entity;

architecture RTL of Adder is
    function add_numbers(a: in std_logic; b: in std_logic) return std_logic is
    begin
        return a xor b;
    end add_numbers;
begin
    process (A, B)
    begin
        Sum <= add_numbers(A, B);
    end process;
end architecture;

```

Impure Function

```

library IEEE;
use IEEE.STD_LOGIC_1164.ALL;
use IEEE.MATH_REAL.ALL;

entity Adder is
    port (
        Sum: out std_logic
    );
end entity;

architecture RTL of Adder is
    function random_number return std_logic is
    begin
        return REAL'(uniform(0.0, 1.0) > 0.5);
    end random_number;
begin
    process
    begin
        Sum <= random_number;
    end process;
end architecture;

```

end process;
end architecture;

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