

- ◆ Used for iterative calculations
- ◆ Index variable implicitly declared
- ◆ Typical use: iterative algorithms, priority encoding, sub-bus extraction, bus turning

```
variable v1 : std_logic_vector(0 to 7);  
variable first_bit : natural;
```

```
-- find first bit set  
for i in v1'range loop  
    if v1(i) = '1' then  
        first_bit := i; exit;  
    end if;  
end loop;
```

```
-- reverse bus  
for i in 0 to 7 loop  
    v1(i) := v2(7-i);  
end loop;
```