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## Bus invert

X00341\_en

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Design a circuit that transfers or inverts the value of an  $N$ -bit bus. A control signal called *invert* will determine whether the value must be transferred ( $invert = 0$ ) or inverted ( $invert = 1$ ).  $N$  must be a parameter of the circuit with default value 8.

### Specification

```
module bus_transfer_invert(in, invert, out);  
    parameter N=8;  
    input [N-1:0] in;  
    input invert;  
    output [N-1:0] out;
```

### Input

- *in* is the  $N$ -bit input bus.
- *invert* is the control signal that determines whether the value of the bus must be transferred or inverted.

### Output

- *out* is the  $N$ -bit inverted value of the bus.

### Problem information

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