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## 2-input multiplexer

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Design a 2-input multiplexer with basic gates. The selection signal is called *sel*, whereas the two inputs are called *in0* and *in1*. The output will be *in0* when *sel* = 0 and *in1* when *sel* = 1.

### Specification

```
module mux(in0, in1, sel, out);
    input in0, in1, sel;
    output out;
```

### Input

- *in0* and *in1* are the signals to be selected.
- *sel* is the selection signal.

### Output

- *out* is the output of the multiplexer.

### Problem information

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