
Shuffle

X07222_en

Design a shuffle circuit. It has two inputs (*in1* and *in2*), two outputs (*out1* and *out2*) and one control signal (*swap*). When *swap*=0, the inputs must be transferred to the outputs in the same order, i.e., *out1*=*in1* and *out2*=*in2*. When *swap*=1, the inputs must be swapped, i.e., *out1*=*in2* and *out2*=*in1*.

Specification

```
module shuffle(in1, in2, swap, out1, out2);  
  input in1, in2, swap;  
  output out1, out2;
```

Input

- *in1* and *in2* are the inputs of the shuffle.
- *swap* is the control signal.

Output

- *out1* and *out2* are the outputs of the shuffle.

Problem information

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