Combinational Design Example

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1   Administrivia

Announcements

Collect assignment.

Assignment

Read 3.5–7.

From Last Time

Design process and analysis.

Outline

1. Outline of design procedure.

2. Design of a two-bit multiplier.

Coming Up

Well-known combinational circuits: decoders, encoders, muxes.

2   Design Procedure Outline

1. From circuit description, determine number of inputs and outputs. Name I/O signals.

2. Determine truth table for each output.

3. Obtain minimized Boolean functions for each output.

4. Draw the schematic.

5. Verify.

Often in multiple output circuits, implicant terms can be shared between outputs, reducing gate count.

3   Two-Bit Multiplier

Class exercise.