

PAIR WORK

PARTNER A

a) Read the definition. Then tell your neighbour in German what sequential logic is.

In digital circuit theory, sequential logic is a type of logic circuit whose output depends not only on the present input but also on the history of the input. Sequential logic has storage (memory).

Sequential logic is used to construct some types of computer memory, other types of delay and storage elements.

Adapted from http://en.wikipedia.org/wiki/Sequential_logic, accessed 23/09/2010

Vocabulary help

sequential logic

Speicherschaltungen

combinatorial logic

logische Grundverknüpfungen

delay

Verzögerung

PARTNER B

a) Read the definition. Then tell your neighbour in German what combinatorial logic is.

In digital circuit theory, the output of combinatorial logic is a function the present input. Combinatorial logic does not have storage (memory).

Most practical computer circuits are a mixture of combinatorial and sequential logic.

Adapted from http://en.wikipedia.org/wiki/Sequential_logic, accessed 23/09/2010

Vocabulary help

combinatorial logic

logische Grundverknüpfungen

sequential logic

Speicherschaltungen

b) Now work together with your partner to explain the difference between combinatorial logic and sequential logic.

	Truth table		RS Flipflop / SR latch
	R	S	Q1
Step 1	0	0	like before
Step 2	0	1	"1" is set
Step 3	0	0	"1" as before - Situation known
Step 4	1	0	"0" is set
Step 5	0	0	"0" as before, Situation known
Step 6	1	1	not allowed
	1	1	"0" if R is made dominant -- dominant reset
	1	1	"1" if S is made dominant -- dominant set

A time flowchart is used to investigate sequential logic or combinatorial logic.

c) Complete the time flowchart whereas R=1 and S=1 means an unknown situation

