

Homework 8

9.1

(a) device register: transfer data from I/O device or to I/O device. In memory mapped I/O device registers are dedicated memory locations for each I/O device.

(b) device data register: is a device register that holds the data that is to be input or output.

(c) device status register: is a device register that memory the status of input or output. It indicates whether the value has occurred.

9.2

If synchronous I/O is used, we do not need ready bits, because the *processor* know when the data will be input and output. It will do input or output at regular intervals, and it will be guaranteed that during those intervals the input data is taken by the computer and the output data goes to the output device.

9.9

The data may be lost. Because if we don't check, the KBSR[15] may be 1.

9.10

The display device can not write to the DDR, because it is an output device.

9.14

The address control logic accesses the KBDR if the address is xFEO2. For the user, this access to KBDR looks like a normal load instruction.