

CS2700 Homework 3

Phillip Janowski (pajmc2@mail.umsi.edu)

November 8, 2018

Question 1.

7.1 List three broad classifications of external, or peripheral, devices.
Communication and human and machine readable.

Question 2.

7.2 What is the International Reference Alphabet?
A 7-bit text code to represent text characters.

Question 3.

7.3 What are the major functions of I/O module?
Control, timing, processor and device communication, data buffering, and error detection.

Question 4.

7.4 List and briefly define three techniques for performing I/O.

- (a) Programmed I/O: data exchanged between the processor and the I/O module. A program is given control of an I/O device to get its status or read, write, and transfer data.
- (b) Interrupt-driven I/O: processor issues the I/O command then waits for the I/O module to interrupt the processor when its ready to exchange data with the processor.

- (c) Direct Memory Access: Gives I/O direct access to what ever it requests through a mock processor.

Question 5.

7.5 What is the difference between memory-mapped I/O and isolated I/O? Memory mapped I/O has a single address space for memory location and I/O drives. Isolated I/O has a seperate address space from main memory.

Question 6.

7.6 When a device interrupt occurs, how does the processor determine which device issued the interrupt?

It will poll each I/O module to see which module sent the interrupt/

Question 7.

7.7 When a DMA module takes control of a bus, and while it remains in control of the bus, what does the processor do?

If the processor needs the bus at the time, it will be forced to suspend operation until the bus is given back up.