**#11.7 “How many PCI-Express lanes are required to support a 10gb per second Ethernet card?”**

The PCI-Express is made up of a bundle of thirty-two serial, bidirectional point-to-point buses. Each bus consists of two simplex line pairs that carry data, addresses, and control signals simultaneously in both directions at a current maximum rate of approximately 2 GB per second in each direction. Each two-way bus is called a lane. Each lane can handle 2x2 GB per second,

So it require at least 3 PCI-Express lanes to support a 10 GB per second Ethernet card.

**Exercise C)**

**Find a current computer ad in a magazine or newspaper or online. Identify each of the future items in the ad, show its position in the system block diagram in Figure 11.1 (on page # 336 -5th edition textbook), explain how it operates, and define its purpose.**

Description of Inter core i9-9900KS specification:

References: https://en.wikipedia.org/wiki/List\_of\_Intel\_Core\_i9\_microprocessors

Cores (threads): 8 (16)

Frequency: 4 GHz

L2 cache size - 8 x 256 KB

L3 cache size - 16MB

GPU frequency 350–1200 MHz

I/O bus type - Direct Media Interface (DMI) 3.0