1. An example of an embedded system is a security system for entering and leaving a building. I worked at a company once where we had to use a key card every time we entered and left the building. It is important that the scanners are always running so that they are ready to scan a key card when someone is trying to get in and then figure out if that person is allowed access or not. I’d imagine that the scanning device sends the data to a server or something and that is where the actual work is done in determining whether or not that person should be let in. But the scanner still needs to get the data from the key card to the server and then get the response back and either unlock the door or not.

2. Two’s Compliment is used because it allows us to represent a larger range of both positive and negative numbers since it isn’t using up space for the negative/positive sign.