Beverly Yee

Prelab 05

u0770041

1. Describe two differences between I2C master and slave devices?

**A slave cannot start a transaction on its own.**

**The master initiates a transaction with a slave by sending the address of the**

1. What are the two connections in an I2C bus? Describe their purpose.

**Serial Data (SDA) – for when the master device uses clock transitions.**

**Serial Clock (SCL) – allows for both the master and the slave to produce data, depending on the direction of the communication.**

1. What is the difference between open-drain and push-pull outputs?

**Push-pull – depends on the voltage of external system.**

**Open-drain – contains a single transistor, can only pull to a low state. Requires an external connection to return a line to a high state.**

1. What is the purpose of the I2C restart condition?

**To allow a master to continue with a new transaction without having to stop and risk the chance of having other devices take control.**

1. What peripheral register would you use to set the read/write direction of the next I2C transaction?

**CR2 Register**

1. The 10-bit SADD bit-field holds the slave device address. Since standard I2C addresses only use 7 bits, to which bits in the bit-field would you write the shorter address?

**[7:1]**

1. Name one thing you found confusing or unclear in the lab.

**How to successfully bitmask an address without losing the data.**