LECTURE 1

ENGR5: Intro to Engineering Practice

MEM Project

LEGO Robo-Soccer

RCX Setup

To serial port

RCX Overview

✓ Simple controller

- Three sensor inputs

- Three motor ports

– Communicates to your computer via the IR tower

– RCX powered by 6 alkaline AA batteries

– IR tower powered by 9v alkaline battery

– Gray DB9 to DB9 cable connects tower to serial port

RCX Description I

- Power button turns RCX On and Off

- Run Button runs the main function ("crash appears on screen if no main is loaded")

- View button displays sensors port values if program is NOT running

- view_button() and prgm_button() --access from your program (start-stop)

RCX Description II

- Ports 1, 2, and 3 are the sensor ports

- Ports A, B, and C are the motor ports (referred to in code as 1, 2, and 3)

RCX Sensors and Actuators

LIGHT SENSOR

The LEGO Light sensor reads light from 0.6 Lux through 760 Lux. The RCX scales this to a 0-100 percent measure.

TOUCH SENSOR

The LEGO Touch sensor is a 9-Volt digital sensor calibrated as a "true/false" switch.

GEAR MOTOR

Gears are located inside the motor instead of externally. This allows for applications demanding high torque at lower speeds and with little loss to friction.