Group number: 4

Deadlines:

* March 14-28: Finish program, gripper, joints, parts and linkages

Code should include:

* Reading the angle of the horizontal, vertical, and gripper motor
* Be able to move the motors to a certain degree in a sequential order
* To read the location position A and B by moving the arm manually and save it’s position by clicking the touch sensor
* The robot must automatically and sequentially move to location A, pick up the ball, move to location B, and drop off the ball

Examples needed:

* motor\_and\_nxtouch
  + Moves the motor based on the touch sensor’s value (true/false)
* MotorEncoder
  + Reads the angle when the motor is moved manually
* motor\_rotations
  + Moves the motor a certain number of rotations

Detailed program:

* Note: before program is run, the gripper is located at location A
* Run program
* Initialize variables, motors, etc.
* Get position after manually moving the motor to location A
* First button press
  + Save position of location A
* Get position after manually moving the motor to location B
* Second button press
  + Save position of location B
* Note: The position of the gripper is above location B
* Third button press
  + The gripper automatically opens the fingers
  + The manipulator moves back to location A
  + The ball is grabbed
  + The manipulator moves back to location B
  + Releases ball to tire by opening gripper
* End

Pseudo code:

* Initialize variables
* Run entire program in while (true) loop to constant read values
* Read encoder value of two motors and gripper motor
* Read for touch press
* if (touch\_status != last\_status) //test what happens when you
  + Button counter = 1
* Switch (button counter)
  + Case 1:
    - Save motor encoder values of two motors to posA variables (int?)
    - Print all motor encoder values
    - Add one to button counter
    - break;
  + Case 2:
    - Save motor encoder values of two motors to posB variables (int?)
    - Print all motor encoder values
    - Add one to button counter
    - break;
  + Case 3:
    - Open gripper fingers
    - Move motors to posA variables
    - if (motor encoder values == posA)
      * Close gripper fingers
      * if (motor encoder for gripper == closed value)
        + Move motors to posB variables
        + if (motor encoder values == posB)

Open gripper fingers

Set button counter = 0

break;

* Default:
  + Print error, posA, posB, and current motor encoder values