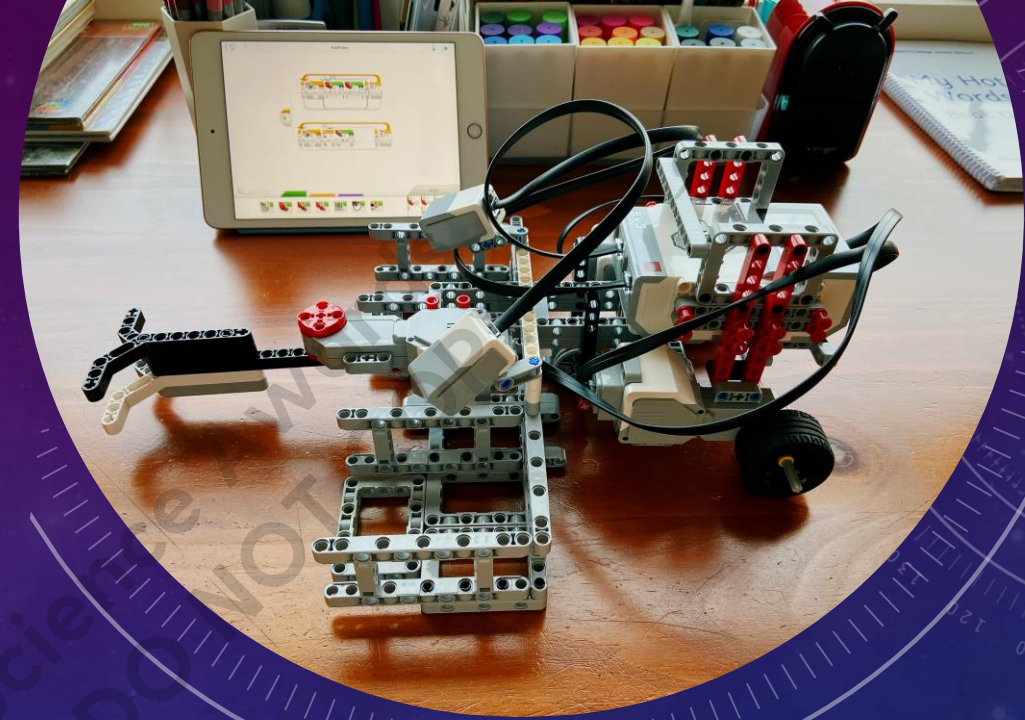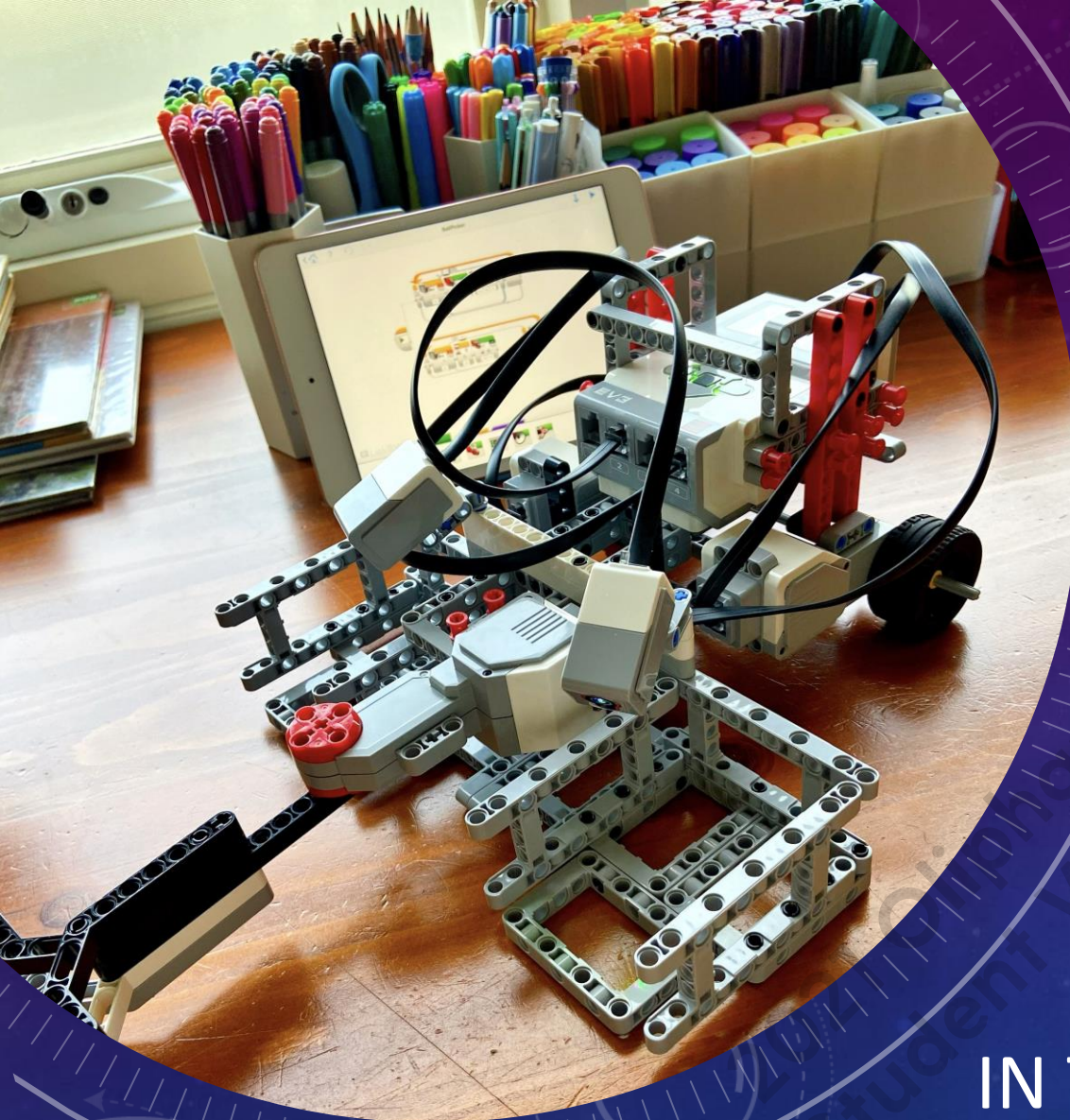# LEGO MINDSTORMS

BALL PICKER

BY ERIC

WHY I MAKE THIS ROBOT

AT TENNIS TIME IT IS A WASTE OF TIME PICKING UP BALLS.

TYPE OF ROBOT

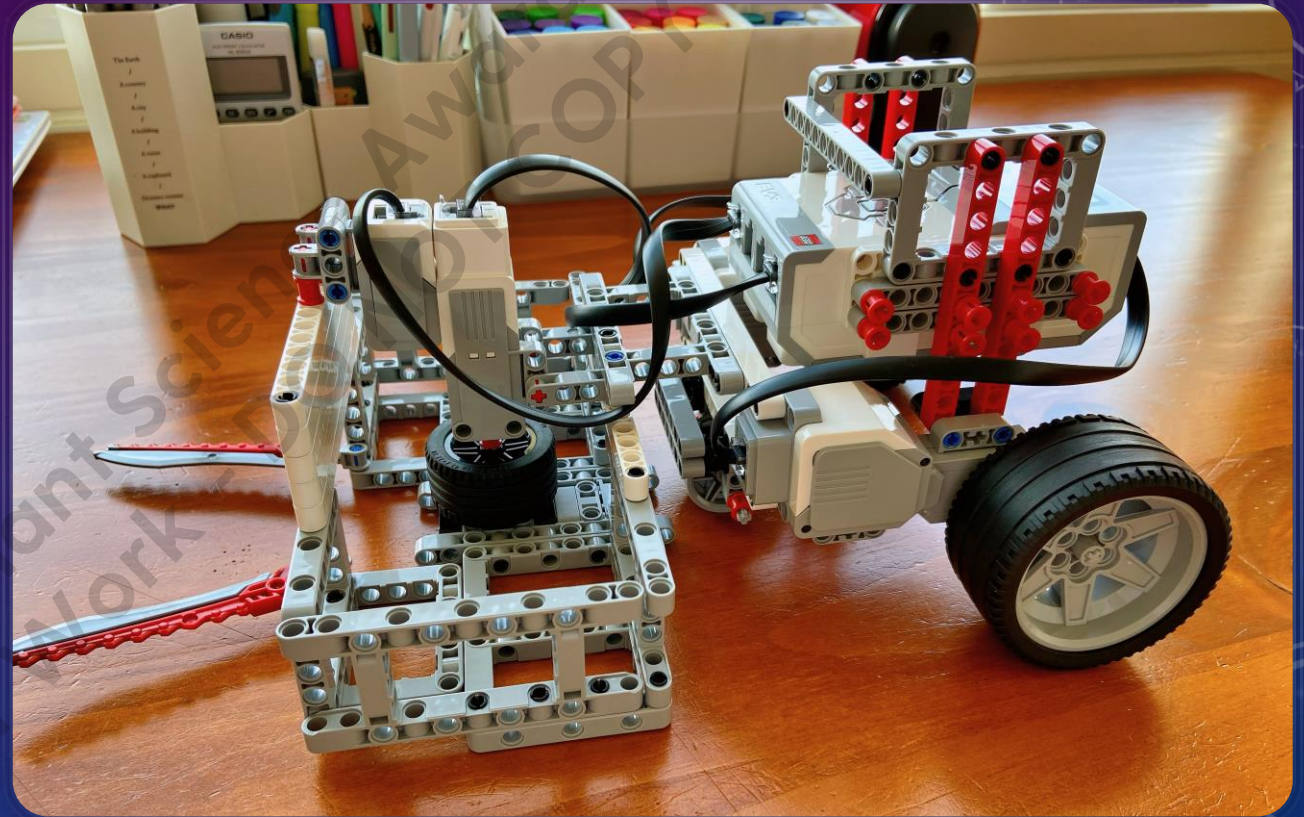- Made using Lego Mindstorms
- Program made on the app Mindstorms.
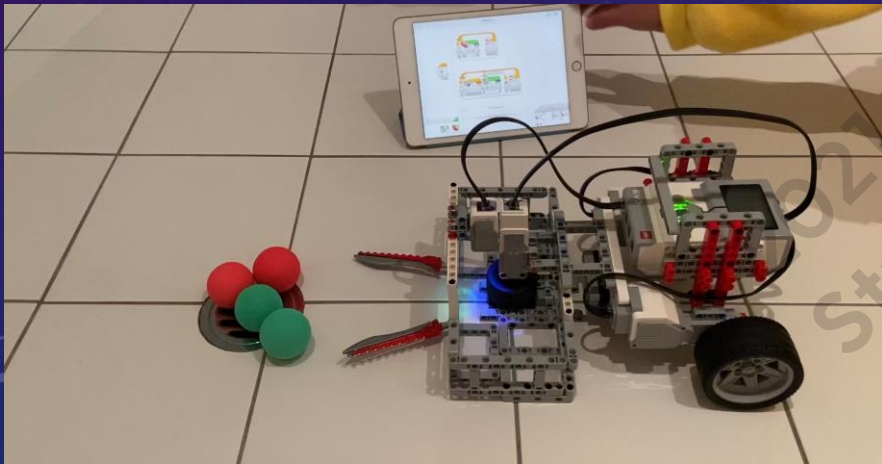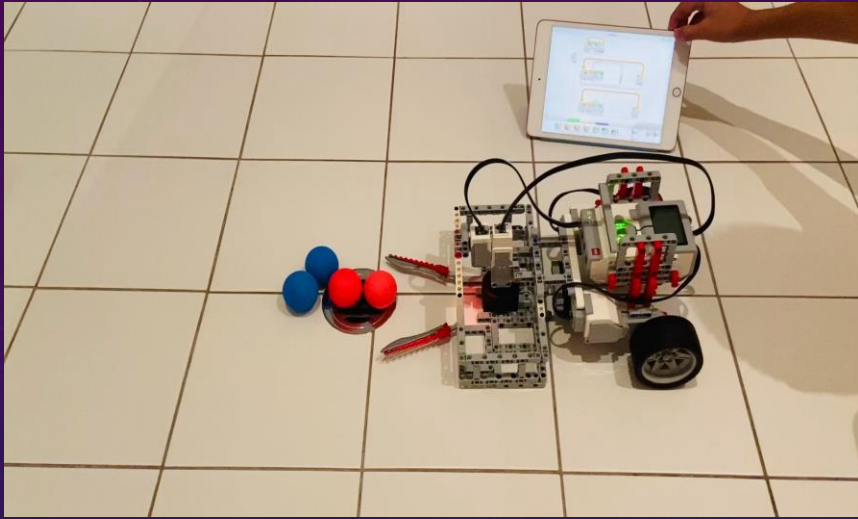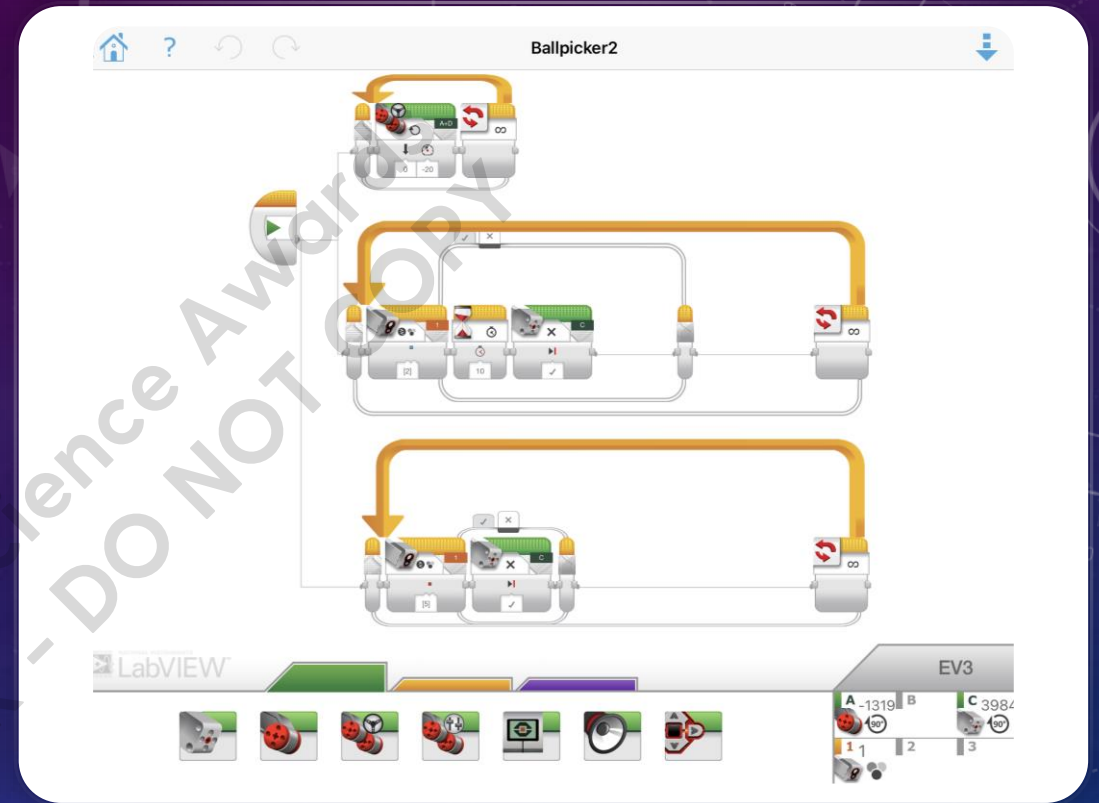
FIRST GENERATION

IN THE FIRST GENERATION I USED THE IDEA SWEEPING TO SWEEP THE BALL INTO THE BASKET.

SECOND GENERATION

Squeezing the ball into the basket.
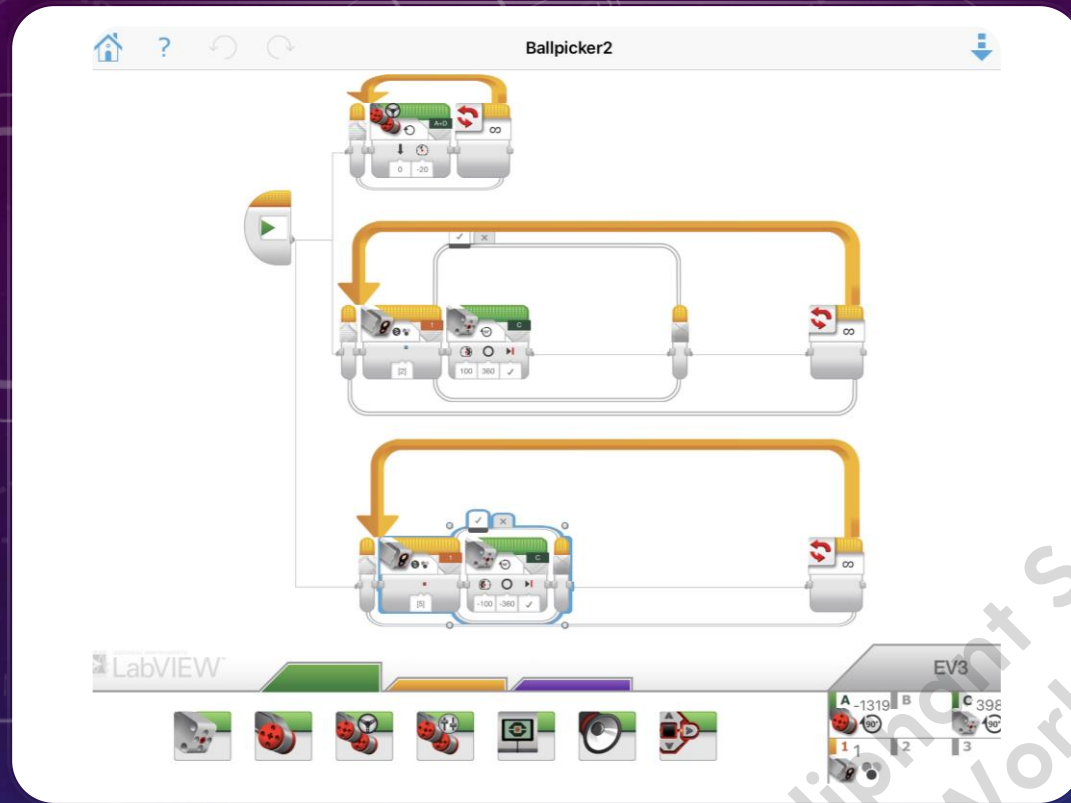
SECOND GENERATION PROGRAM

- THE PROBLEM IS THE PROGRAM IS CONFLICT
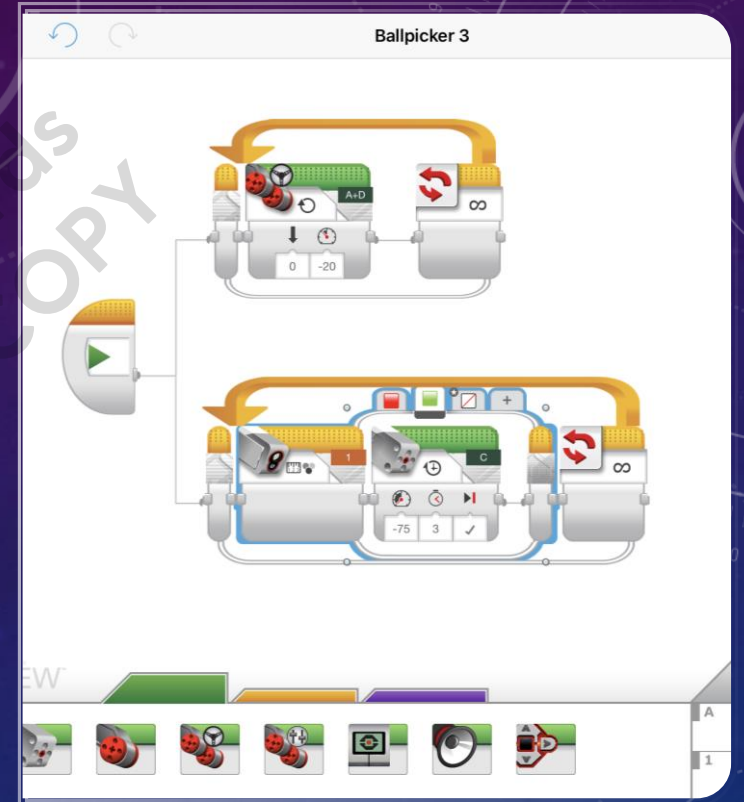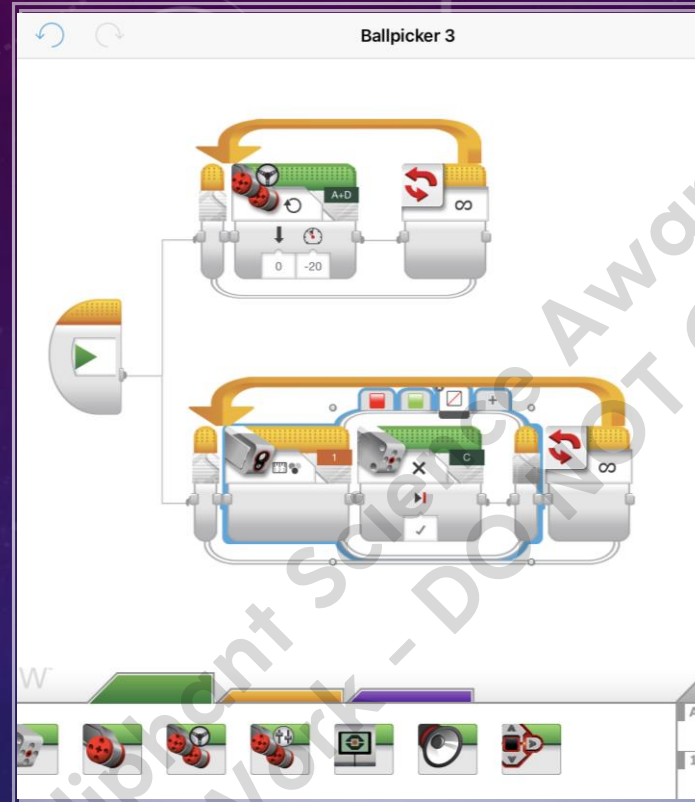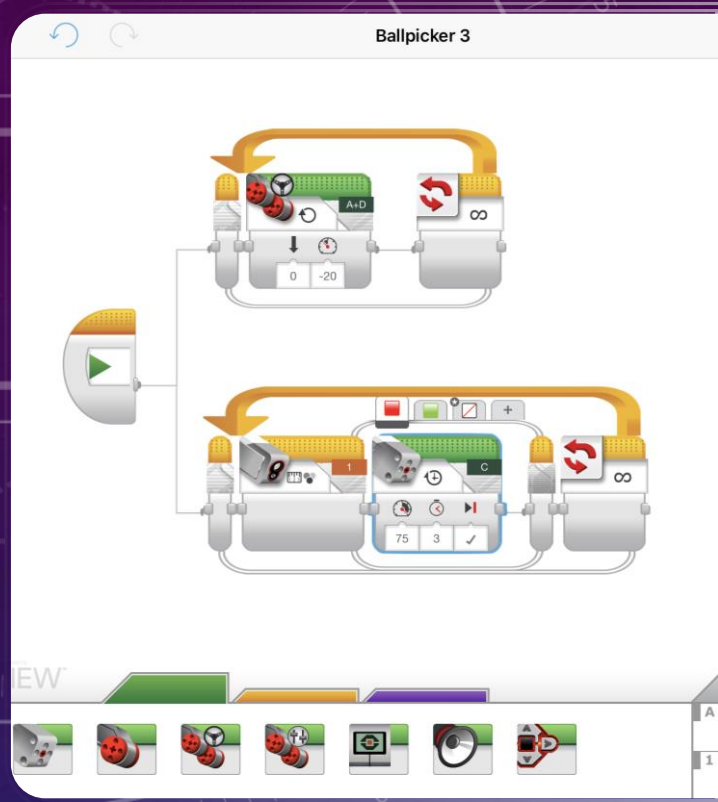
SECOND GENERATION
PROGRAM

- I SOLVED THE PROBLEM BY FINDING OUT MEASURE

SECOND GENERATION GEAR

At first I used a gear It did not work if I used a ping pong ball because these two items does not have elastic.
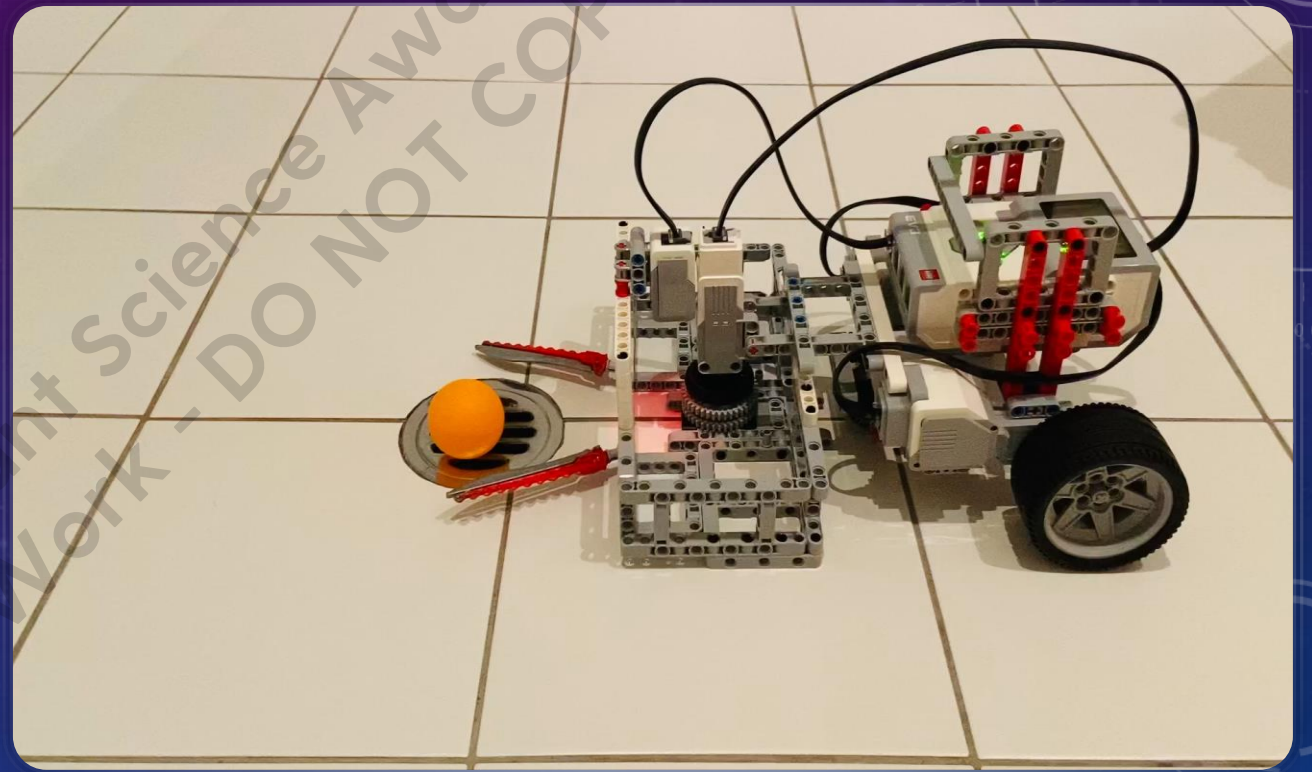
THIRD GENERATION

- Adding an infare sensor so the robot could go diagonal back to pick up other balls when the robot see the wall.
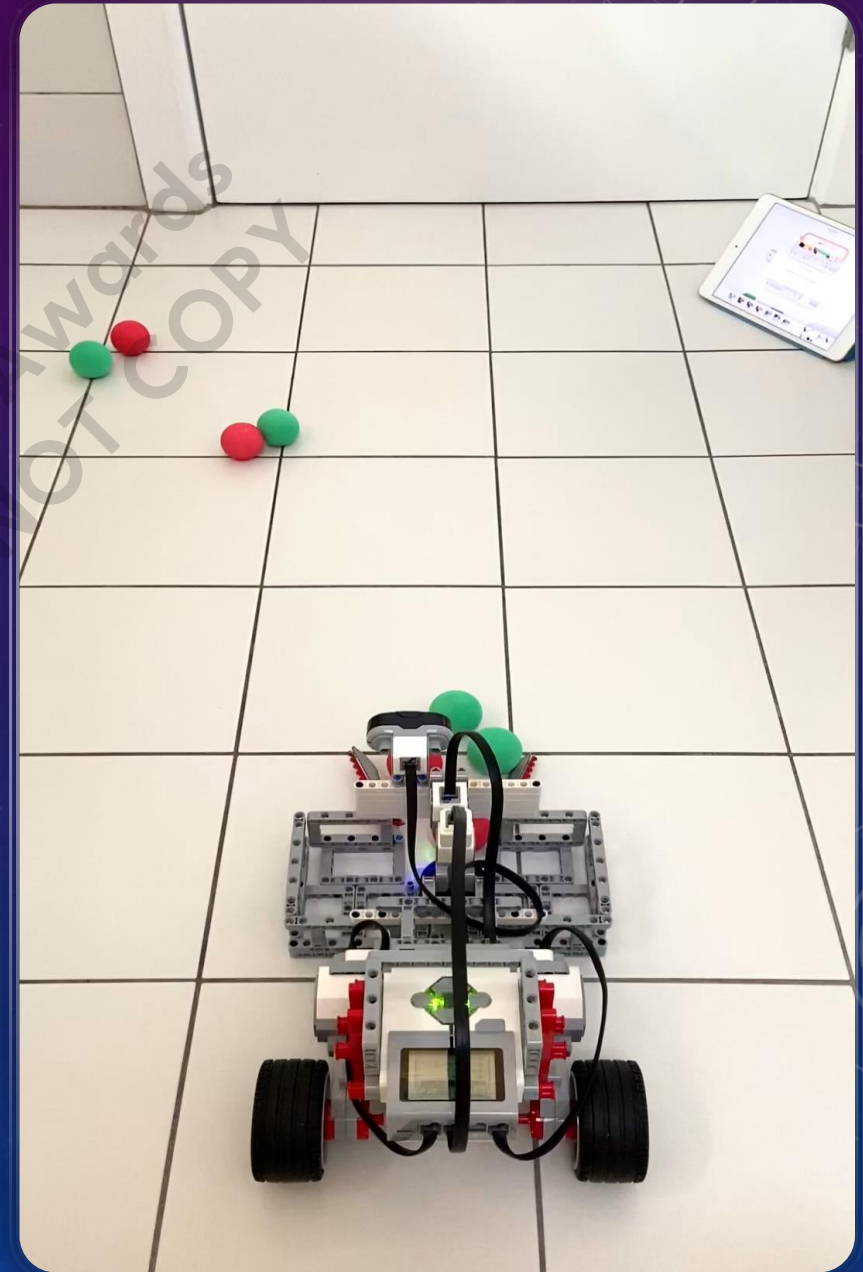
THIRD GENERATION PROGRAM

- The first wire connects to the program that controls the infare sensor and the large motors.

- The second wire connects to the program that controls medium motor and the color sensor.

- The programs all need a loop.
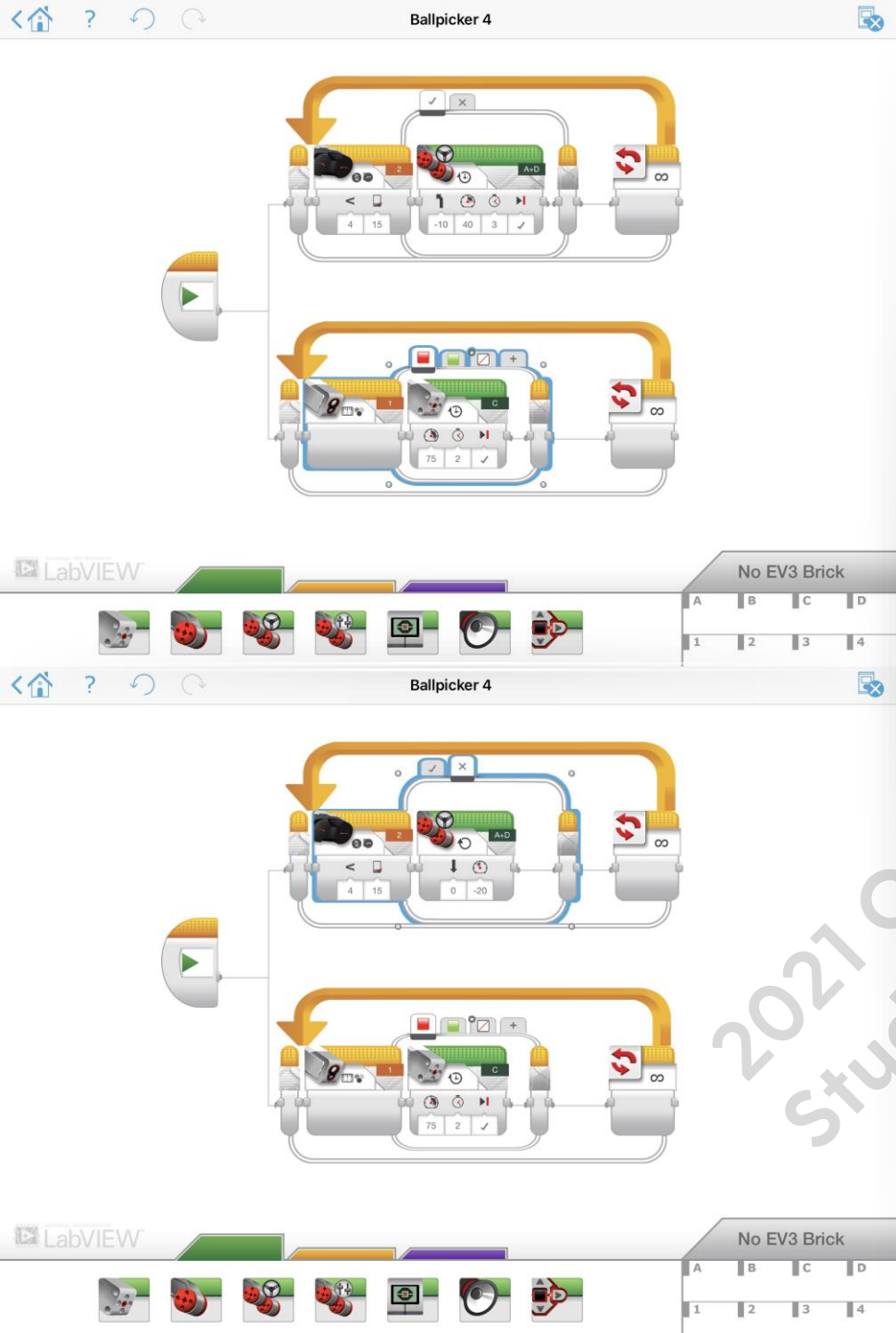
THIRD GENERATION PROGRAM
FIRST WIRE

- When the infare sensor see the wall I set move steering turn back so the the robot could go diagonal back.

- When the infare sensor can't see the wall I set a move steering go forward so the robot could keep going forward.
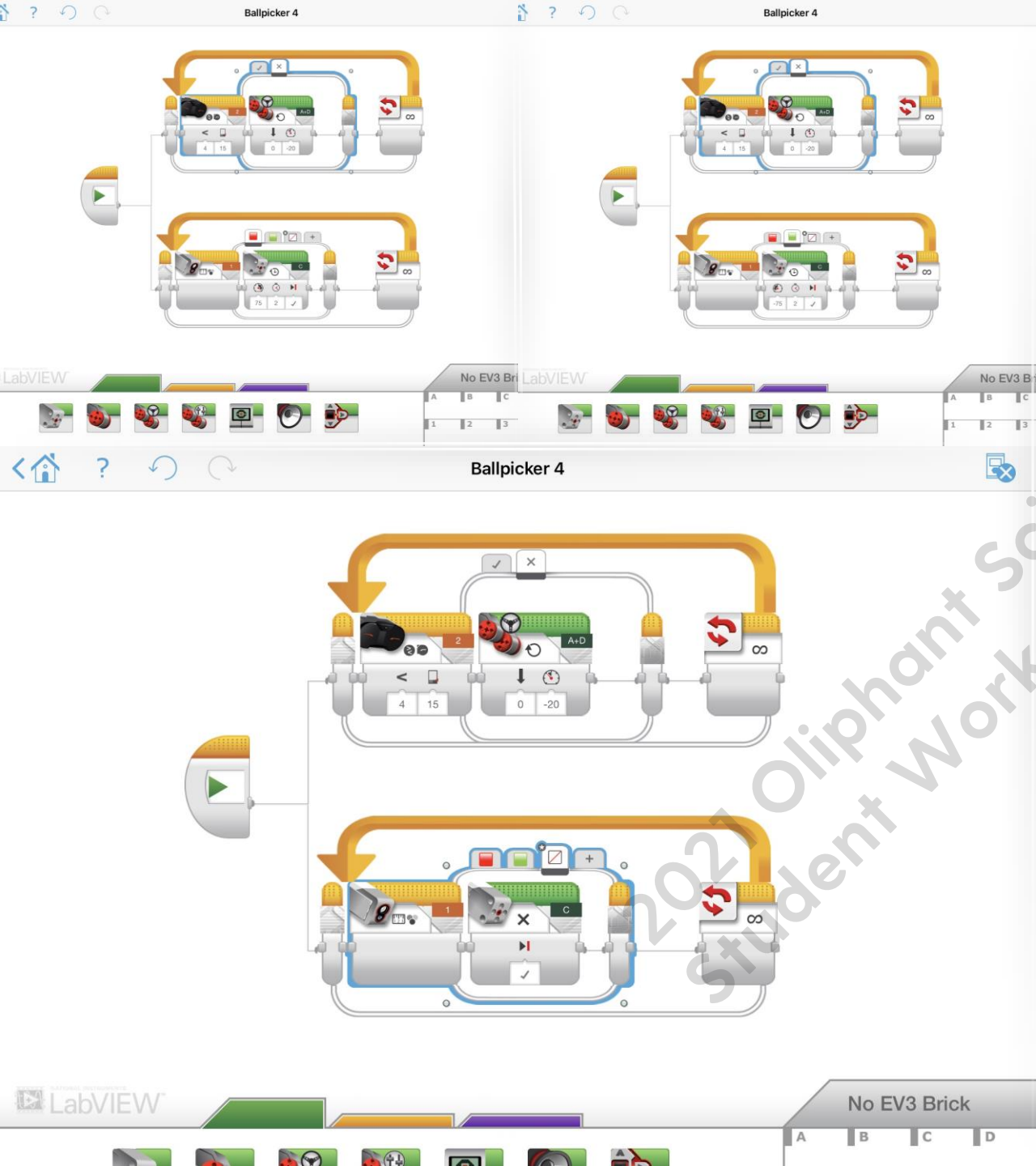
THIRD GENERATION PROGRAM
SECOND WIRE

- When the robot see red I set medium motor turn   left so the robot could squeeze the red ball into the left basket.

- When the robot see green ball I set medium motor turn right so the green ball could be squeezed into the right basket.

- When the robot see not red and not green I set medium motor off I also set default case in the no color part so the medium motor stops.

IMPORTANT PARTS

THE BALL PICKING PART IS THE MOST IMPORTANT PART IT IS ALSO THE MOST DIFFICULT PART.

SCIENCE CONTENTS

- Friction. Friction slows things if there was no friction cars and bikes would go on for ever.

- Elastic. Elastic makes things bouncy if there was no elastic you can not bounce on trampolines.

MORE USES

- My robot could also separate other objects like TOMATOES, APPLES and DELIVERIES if the packages have color.

Pictures from Google

SUPPORTS

- I learnt Keynote from school it's similar as PowerPoint which I learnt from my mum.

- I learnt friction from school Y2.

- I learnt elastic from my mum.

THANK YOU