Add a Title: Team Name Robot C Design Document

Specifications:

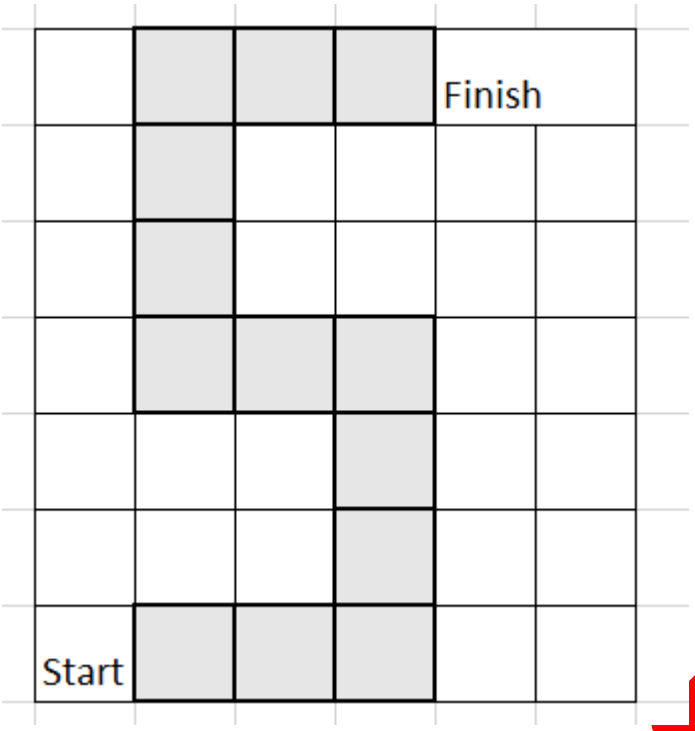
Robot Dimensions: (must be less than 12”x12”x12”)
Length: 10”
Width: 9”
Height: 10”

Pictures of Robot:

Main Components:
2 motors (B and C) to drive
1 motor (A) to turn ultrasonic sensor
1 ultrasonic sensor
1 light sensor
2 medium tires with rough tread
1 small grey wheel on back

Programming:

Our program directs the robot to follow the following course and end the course with a 360°spin.



Note, each square represents a motor time of 1 second.

Pseudocode and Code:

Pseudocode should be typed up following correct Robot-C procedures (//). Code may be screen shot and pasted in, but should be free from grammar and syntax errors.

//start motor a,

//start motor b,

//run both for 5.5 s

//stop motor a

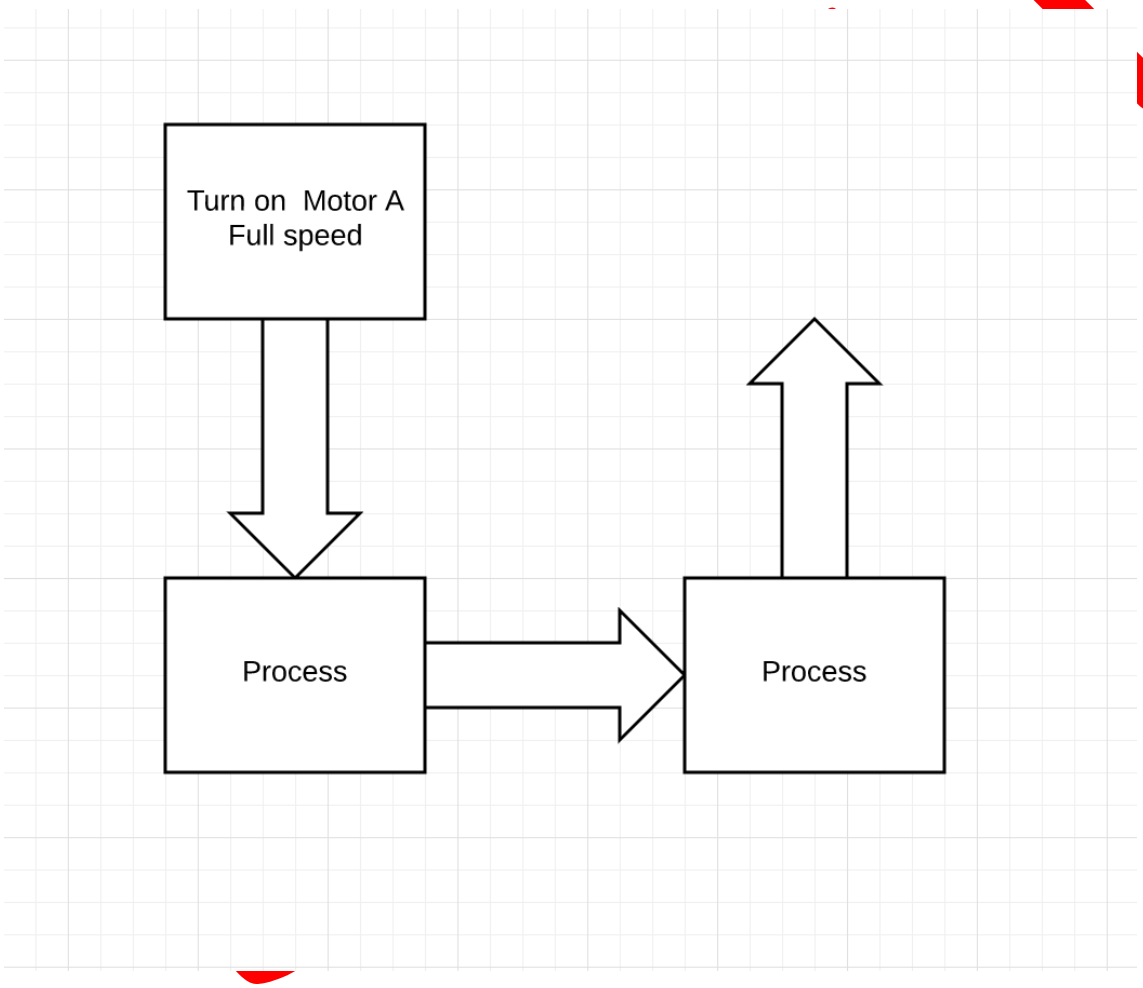
//start motor b

//run motor b for 1.5 s ….

Our code and pseudocode in RobotC. Be sure to capture your motor and sensor setup in the image.

LEGO Start Page | sample ev3.c*

```
1  #pragma config(Motor,  motorA,          motora,        tmotorEV3_Large, PIDControl, encoder)
2  #pragma config(Motor,  motorB,          motorb,        tmotorEV3_Large, PIDControl, encoder)
3  //*!!Code automatically generated by 'ROBOTC' configuration wizard               !!*//
4
5  //Team Awesome Sauce
6  // Program for RobotC trial 3
7  task main()
8  {
9    motor[motora] = 100;  //turn motor a on full speed
10   motor[motorb] = 100;  // turn motor b on full speed
11   wait1Msec(5500);      // run motors for 5.5 seconds
12   motor[motora] = 0;    // stop motor a
13   motor[motorb]= 0;   // stop motor b
14   motor[motorb] = 100;  //turn motor b on full speed
15   wait1Msec(1500);     //turn left
16
17 }
```



FlowChart:

Flow charts can be done using any program (lucidchart in google drive recommended) but should follow all rules of flowchart symbols.

Testing:

Students will explain the testing of their robot and what modifications they made to improve its speed, accuracy, or attack (BattleBots). This should include physical changes to the robot such as changing the wheels, modifications to the missile/attack arm or even redesigning the robot. It should also include specific changes to the programming. Students should include a data table showing the results of different trials.

Trial	Time	Adjustments
1	17.2 s	First successful completion of the course.
2	15.7 s	Increased the distance between the sensors to 14cm.
3	14.2 s	Decreased the distance between the sensors to 12cm.
4	12.4 s	Increased the power on the motors to 80%
5	10.2 s	Increased the power on the motors to 90%