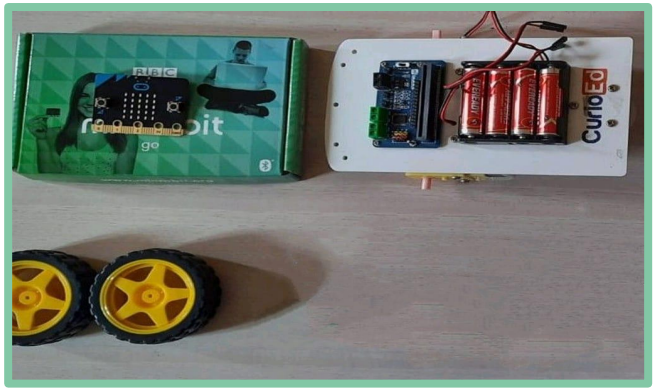
SELF DRIVEN CAR WITH MOBILE CONTROLS....

Material Required -

- Microbit and Expansion board.
- Tape and scissors.
- A fitbit (preferably MI band).
- Car chassis with motors and batteries.



Why this Project -

We all have been playing with remote control cars and other remote-controlled devices from the very childhood.
So, after building the self-driven car, I thought of improvising it a bit.
Thus, the idea of giving it an additional feature that would help us control it came into my mind.
Also, it would be so amazing if we can control our SDC from our mobile. Hence, this project!

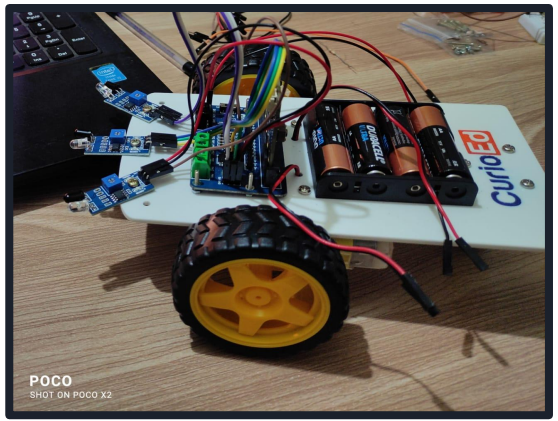
Some Technicalities...

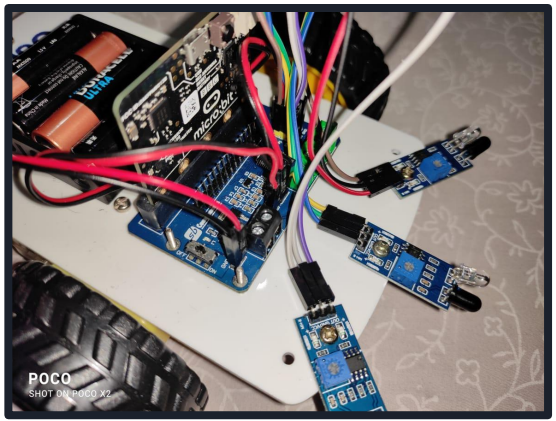
Now, we all are well aware of different types of sensors in the microbit. One of them is an accelerometer. Instead of using an RC mechanism, we will use our Fitbit to trigger the accelerometer. Using the "Find Band" option in Mi Band app, we can vibrate our Fitbit, and that would serve as an input. Considering that input, we will code the microbit to give desired outputs.

Let’s Start -

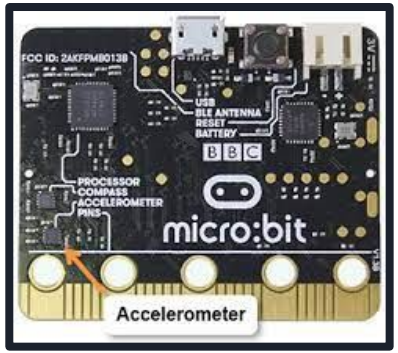
Let us begin with the hardware part. We need to follow few steps. All the steps are listed below.

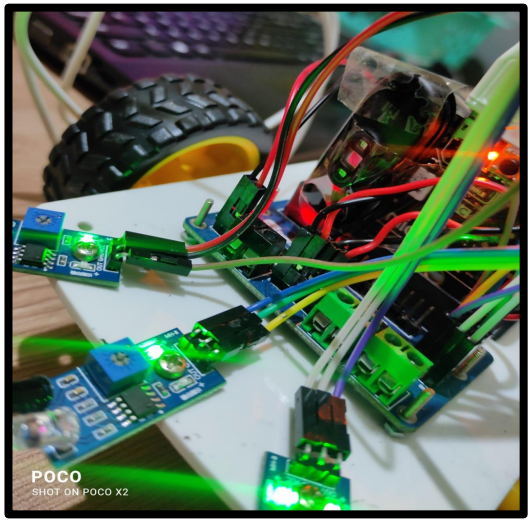
1. Assemble all the parts (like wheels, IR sensors, expansion board, microbit, on the car chassis)

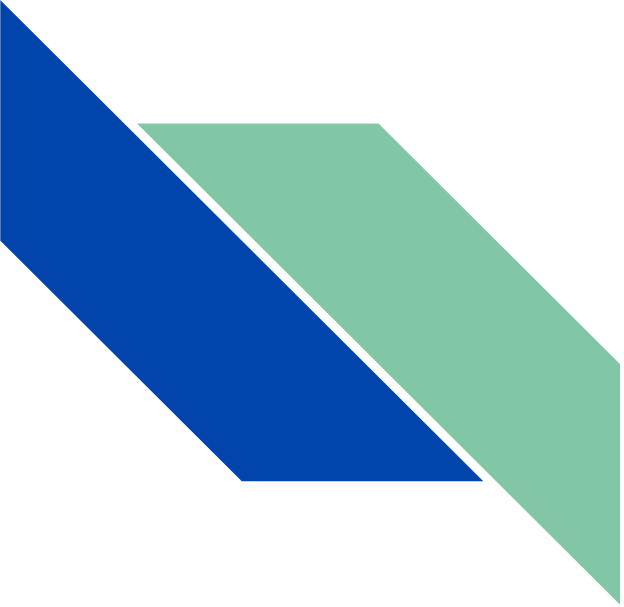




2. Remove the Fitbit section from the band and attach
   It above the accelerometer of the microbit with a tap.

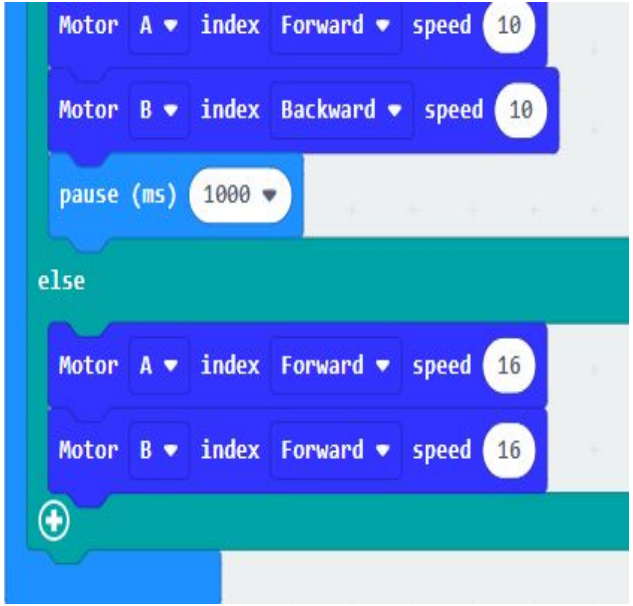






LET’S CODE …

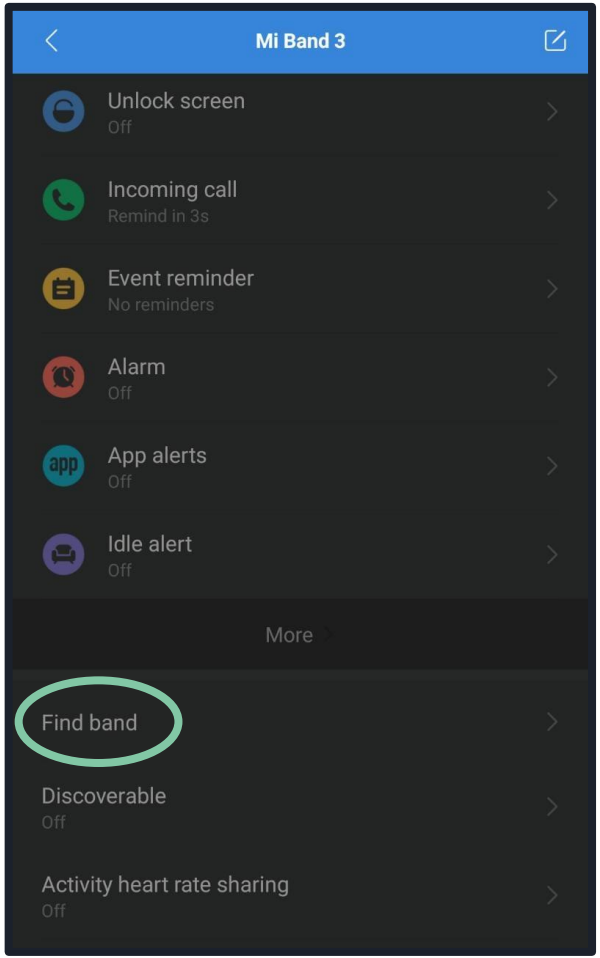
Since our car is going to be self driven as well as mobile controllable, we will start with the code that we use for a self driven car.



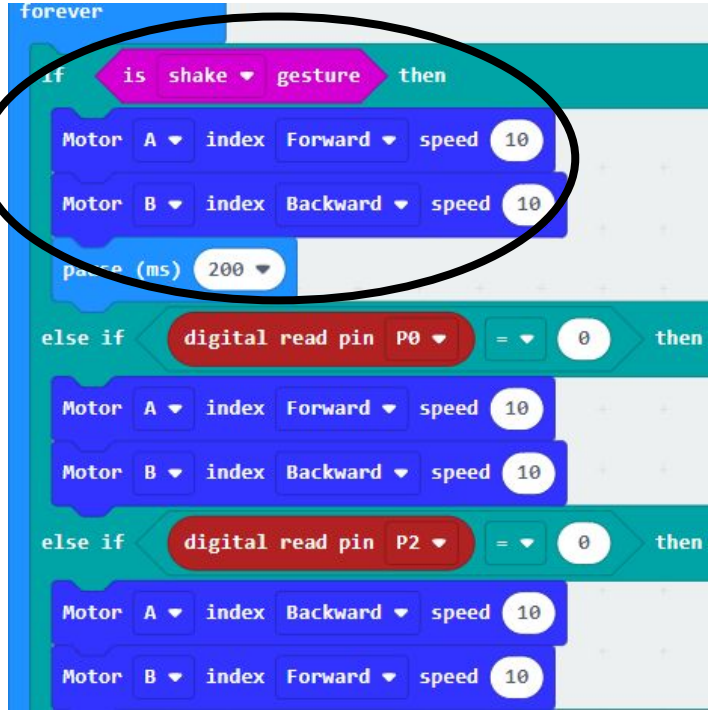
Now, to vibrate our Fitbit, we can use the option “Find band” in the Fitbit’s app.

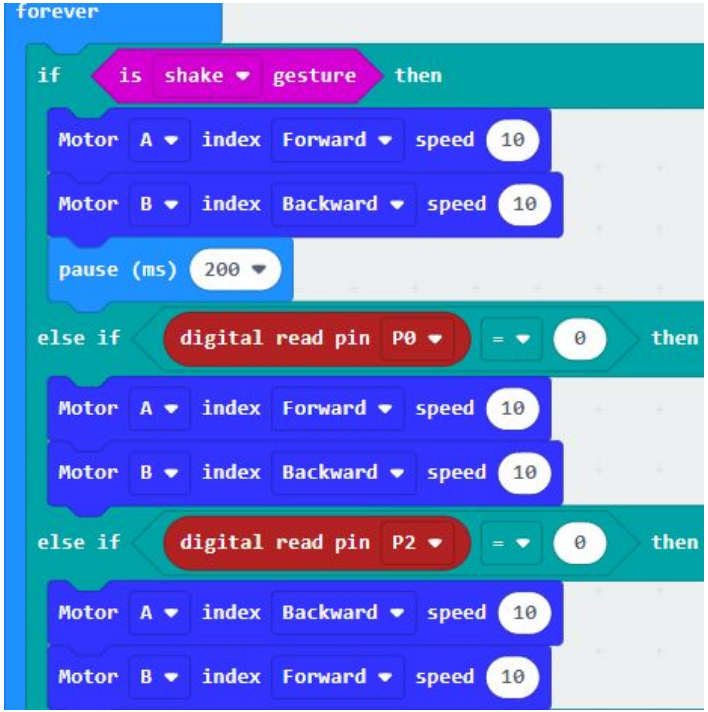
Clicking this option would vibrate the Fitbit which would trigger the accelerometer present on the microbit.

Thus, we can now code the car to move either right or left whenever the microbit detects a shake (using on shake block)



Let's make our car turn right whenever we click on "Find Band". Thus, we will be adding an extra condition that turns the car towards right as soon as the microbit detects a vibration.





All Set to Work ….

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