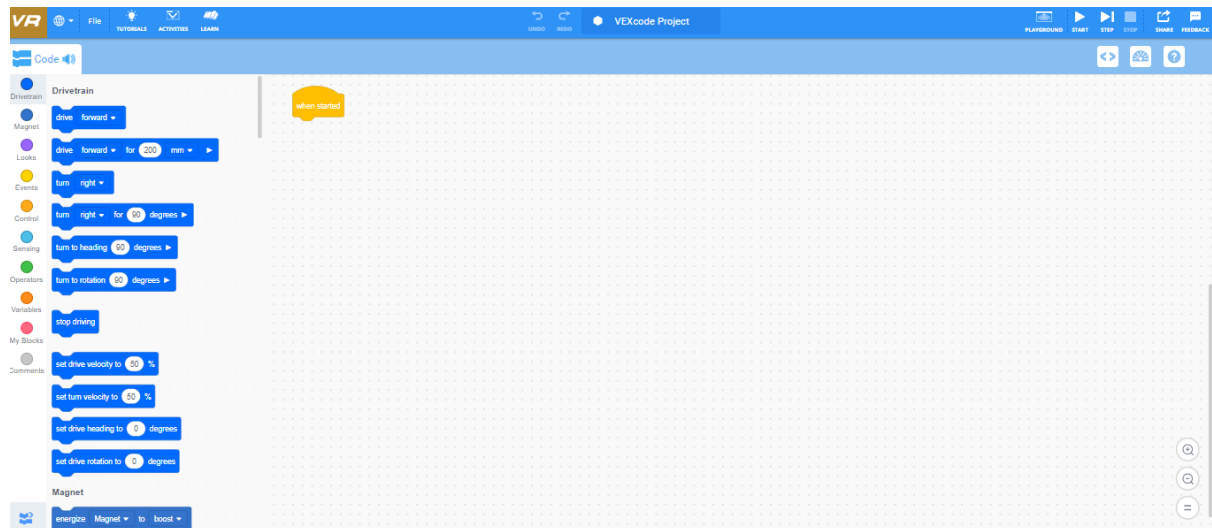


Welcome to the VEXcode VR workshop.

Today we will programme a virtual robot and get it to travel from one end of a maze to another.

Lets start with some basics.

Go to <https://vr.vex.com> – this is the VEXcode VR application window. It should look something like this;



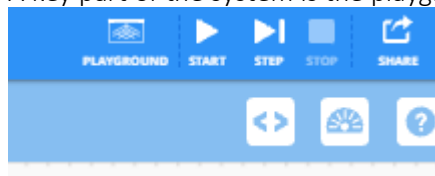
On the left you have the code block toolbox – they are grouped in categories

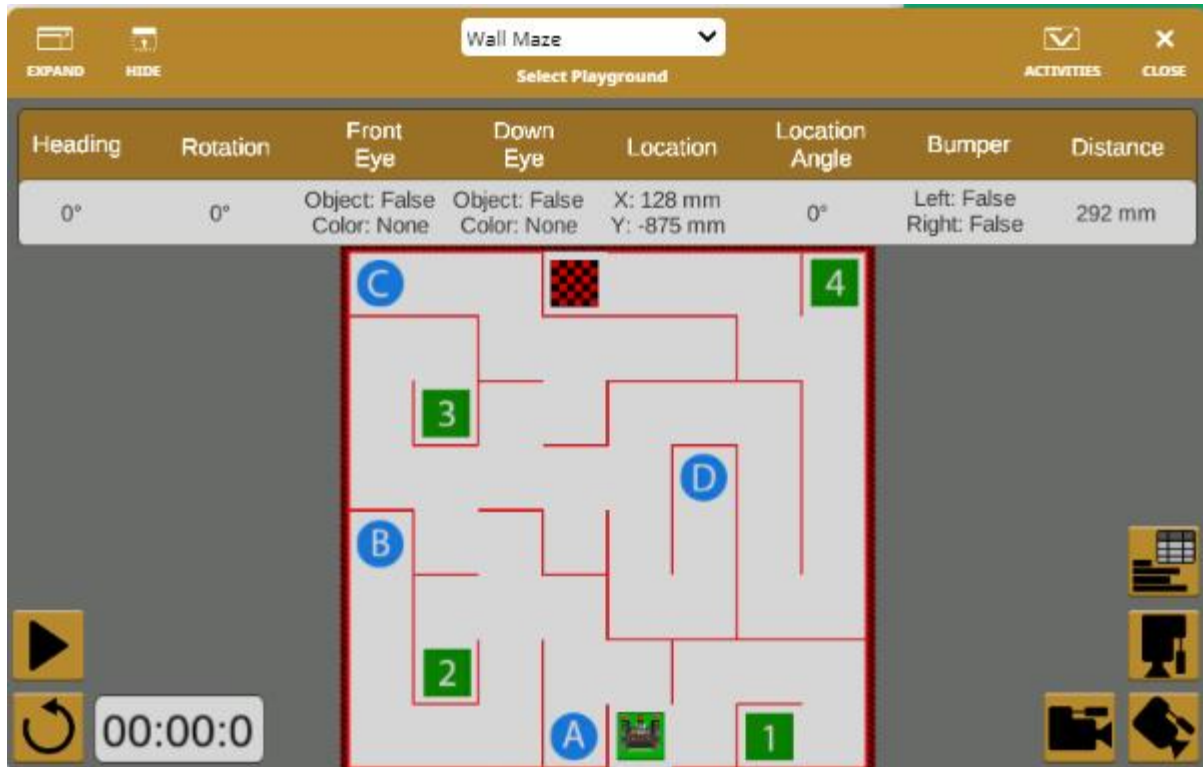
- 1) drivetrain for movement,
- 2) magnet to energise to pick up and drop items
- 3) looks for printing
- 4) events to trigger when something happens
- 5) control to manage the logic and loops etc
- 6) sensing to detect the environment
- 7) operators for maths and logic
- 8) variables of course
- 9) my blocks to make your own actions

Feel free to check them out.

There are tutorials and activities to lead you through the full features of the system.

A key part of the system is the playground – click the playground button and





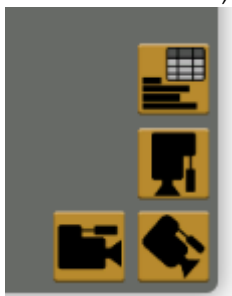
There are many different playgrounds, today we will use this one – the wall maze – you can select a playground by changing it in the top centre of the playground window.

The objective today is to get the robot to move from its starting position to the black and red finish flag at the top of the maze!

There is a start and reset button on the playground:



Also camera views;

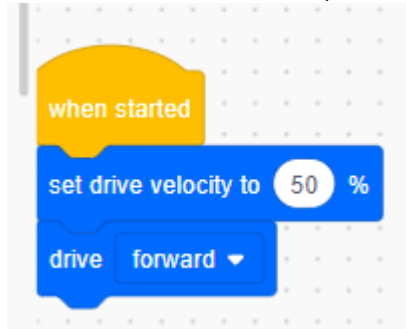


Try them out!

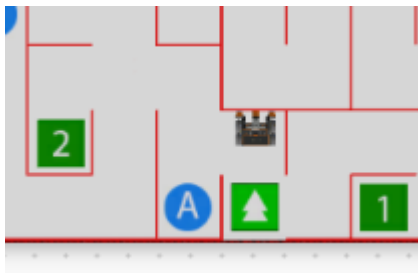
Lets start getting some movement

Use the Event 'When Started' this will trigger when the play button on the playground is pressed

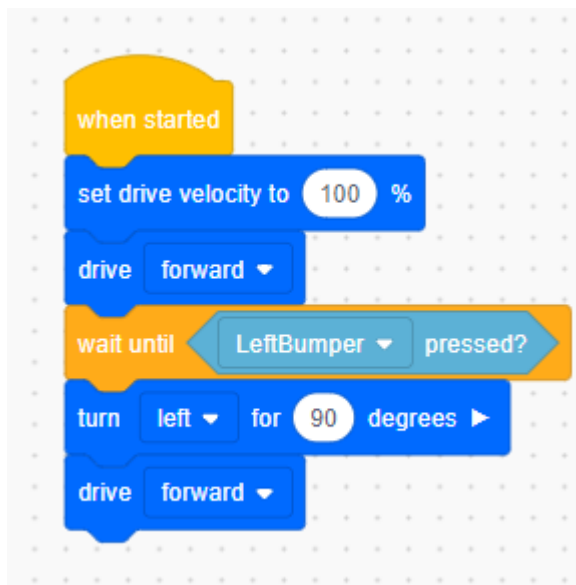
Now we will set the velocity to 50% and drive forward



Hit the play button and the robot should move to the wall and stop. Note you can change the speed i.e. velocity by increasing it to 100%.



Very good, now we need to put something in to sense when the left bumper is pressed, try using 'wait until' and then 'turn left or right for 90 deg'.



Now you will need to work out yourself using this code how to get to the red flag and put in the correct code of course, sometime you might have to reverse as in maze corner 2 so use the



Drive 'reverse' for XX mm hint its a lot more than 10 mm !!

Some things to try – how about using the downeye to look for a specific colour or maybe sense the distand to the wall rather than using the bumper to detect?

The solution is on the next few pages if you get stuck

Good Luck



