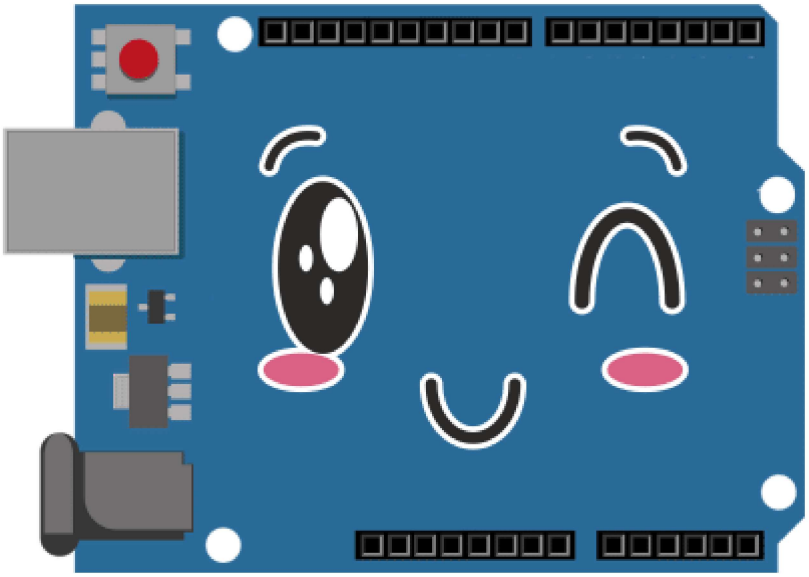
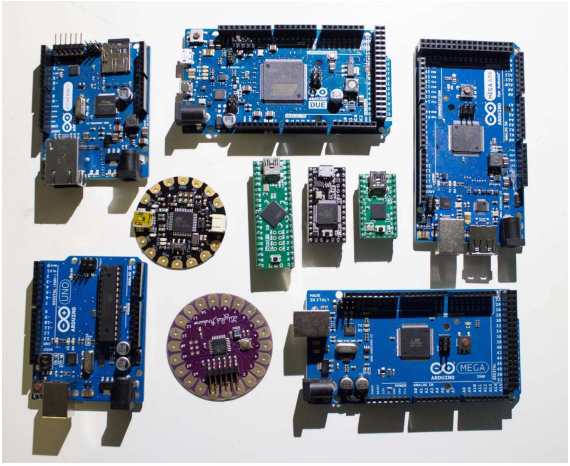
Arduino and PS

Throughout this journey, you learned a lot about bits and bytes, flowcharts and pseudocode, programming and it's various core constructs, and finally algorithms. Well, we hope you did. Before wrapping up, there's one very important thing that remains. How does all this fall in place in robotics? Why does a robotics enthusiast actually require algorithms and pseudocode along with everything else you have studied?

Now the applications of algorithms and pseudocodes in robotics are too vast to even list. However, we shall take a small peek at one particular one. The first love of every robotics aficionado, welcome to the world of Arduino!



What is this Arduino, then? Arduino is actually the name of a manufacturer of programmable development boards. However, generally, the boards themselves are referred to as “Arduino”. Take a look at various types of Arduino boards.



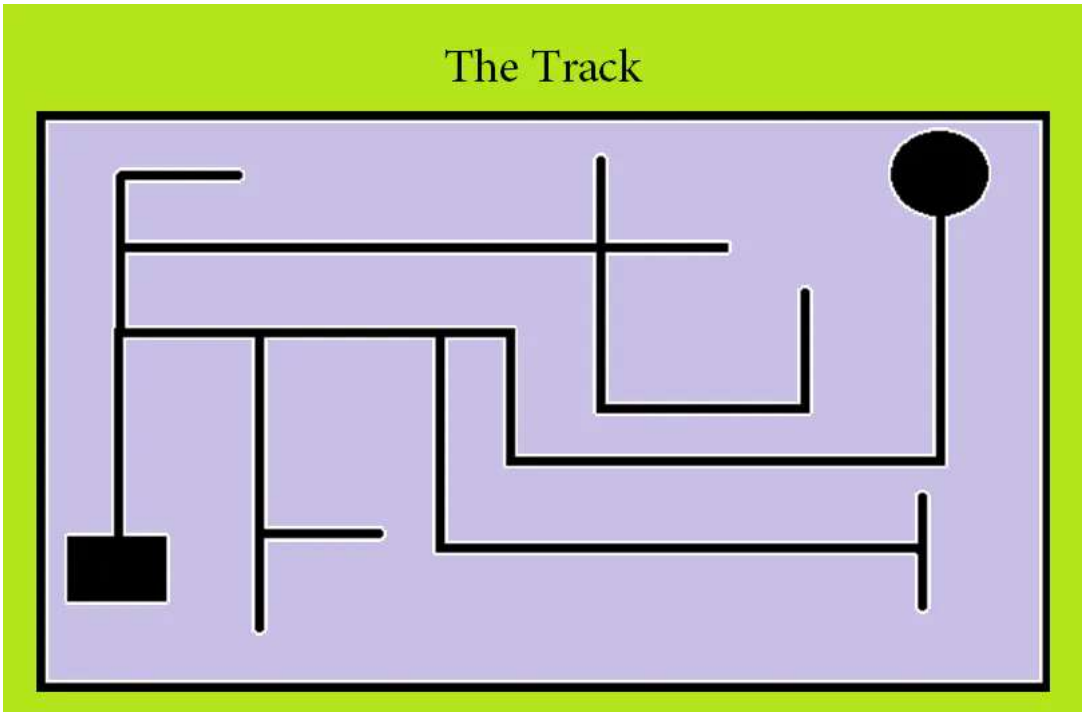
Think of them being like the brain of the robot. We program this brain to work as we want it to. This is done with the help of the Arduino IDE. We will learn to use Arduino in our upcoming blogs. **With this, we have reached the end of this blog. Hope you enjoyed it! We’ll wrap it up with a question.**

PROBLEM STATEMENT

Now is the time to do the real brainstorming, your robot is stuck in a warzone and has to return to you after navigating the whole area of your enemy. It has the following features:-

1. It can sense where the paths are(right, left, front, etc).
2. It can make turns of (90,180,270,360) degrees only. (both left and right turn).
3. It can run front and back only. (no sideways movement).

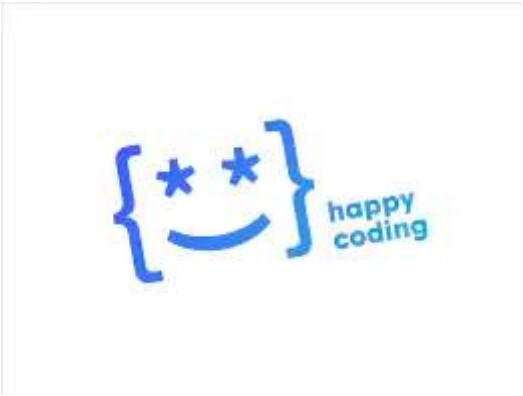
The warzone is shown in the image:-



The robot is in the square-shaped box and has to return to the circle after navigating each and every path i.e.- it has to visit every node.

Using the full use of the features that your robot possesses, write a pseudocode/algorithm and submit your answer attached.

However, we have tried our best to avoid using any coding language in this blog but in some parts, it was necessary to give examples using one language. C has been used as the default language as it is widely used in universities for their first-year course.


happy
coding