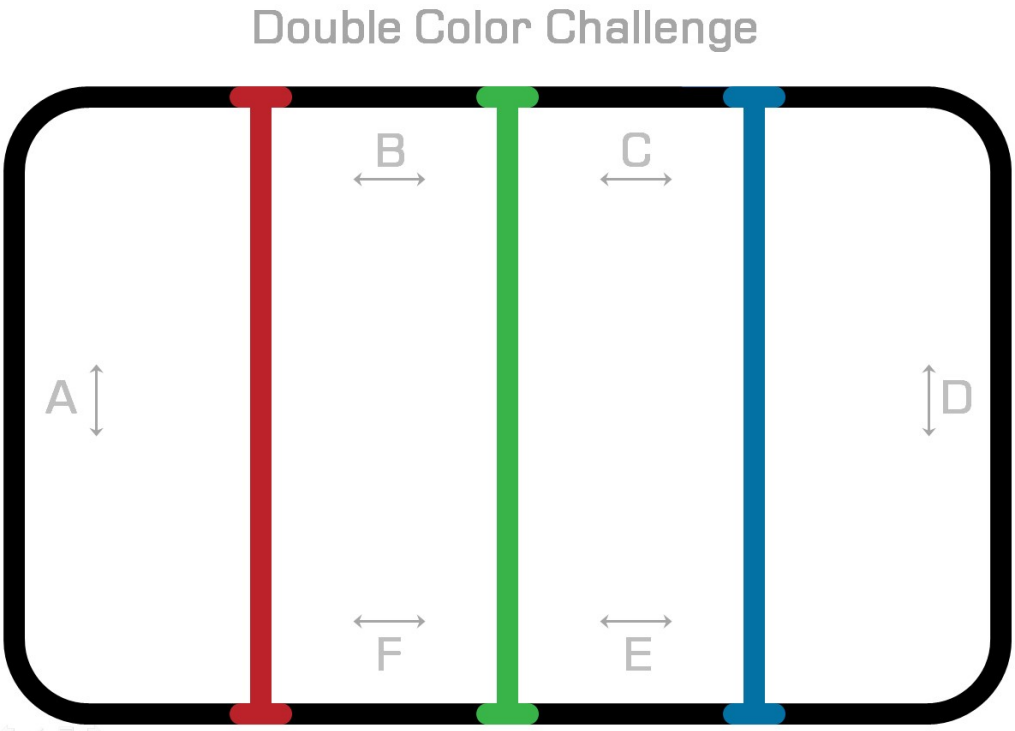
OzoBlockly "Double" Color Challenge

By Richard Born
Associate Professor Emeritus
Northern Illinois University
rborn2@niu.edu

Introduction

This OzoBlockly challenge is a double challenge involving the red, green, and blue color paths shown in the small copy of the Ozomap below. A larger copy, suitable for printing and using with Ozobot, can be obtained in the file *DoubleColorChallenge.pdf*.



Challenge #1:

In this challenge, you will be designing an OzoBlockly program that will make Ozobot traverse each of the three color segments ***exactly once, in any order***. After having traversed the three color segments exactly once, he will simply go in "circles" around the black border track forever, never to visit the color segments again. Your program should work regardless of which black segment (A, B, C, D, E, or F) Ozobot is initially started at, and regardless of the initial direction of Ozobot. Directions are shown by the arrows in the above figure.

Challenge #2:

In this second challenge, you will be designing an OzoBlockly program that will make Ozobot traverse each of the three color segments *exactly once*, ***but this time the three visits must be in the order GREEN, BLUE, RED***. After having traversed the three color segments exactly once in the order green, blue, red, he will simply go in "circles" around the black border track forever, never to visit the color segments again. As in the first challenge, your program should work regardless of which black segment Ozobot is initially started at, and regardless of the initial direction of Ozobot. *[Note that it **may** be possible for you to program challenge #2 by making some modifications to your OzoBlockly program from challenge #1.]*

Challenge Requirements

1. Make sure that Ozobot has plenty of battery charge.
2. Ozobot should be moving at 60 mm/s, displaying a white LED at all times while moving.
3. Ozobot should be placed on any of the six black segments (A, B, C, D, E, F) in either of the two directions shown by the arrows, and then started. Also remember that your program should work correctly regardless of Ozobot's starting location and direction.
4. Follow the stipulations specified in the descriptions of the two separate challenges.