Turning Investigation

Investigation Description
In this investigation we will look at two types of turns: swing turns and point turns.

**Swing turn** - in this type of turn the set of wheels or treads on one side of the robot are powered and the other set of wheels or treads remain still.

**Point turn** - in this type of turn one wheel is powered forward and the other wheel is powered in reverse causing the robot to turn on its central axis.

Procedure:
Write a program that allows your robot to execute a 90 degree swing turn. At this point in your programming career, all that you know how to adjust is timing and power levels. Iteratively test and improve your program until you get the turn to be exactly 90 degrees.

Now write a program that allows your robot to complete a 90 degree point turn. Iteratively test and adjust your program until your robot turns exactly 90 degrees.

When you complete the programs divide the amount of time you turned the motors on for by two and see if your robot executes a 45 degree turn.

What variable did you adjust to make your 90 degree swing turn? When you mathematically manipulated those variables did you get the results that you expected? (For instance, if you doubled the amount of time, did your robot turn 180 degree?)

What variable did you adjust to make your 90 degree point turn? When you mathematically manipulated those variables did you get the results that you expected?

Which type of turn is more reliable: point turns or swing turns? Why?

Which type of turn was faster?