Robotics Challenges

Challenge 1 - Fetch Without The Ball

Can you make your robot go forward for 5 rotations, then back up all the way to you?

Challenge 2 - Deliver a message

Make your robot drive to your friend and say something. Then make it turn around and come back to you. Use swing turns (only one motor going forward makes the turn) and pivot turns (one motor forward and one motor backward makes the turn – Hint: use the frustrating steering setting). Which do you like better?

Challenge 3 - Don't scare me!

Make your robot drive to your friend and say something. Make the robot wait for your friend to say "BOO", make your robot scream and run back to you.

Challenge 4 - Around The Block

Can you make your robot travel all around a square path? (Hint: 5 rotations per side works well.)

Challenge 5 - Elegance Is You

Look at the square program you made for Challenge 6. Can you see ways to simplify your program by making a loop? What parts repeat?

Challenge 6 - The Laugh-bot

Make your robot become a laugh-bot by making it laugh every time you say something. You will need to wait for a sound and use a loop to make it become the best audience you've ever had.

Challenge 7 - Watch My Nose

Make the robot go toward the wall but stop when it is 60 cm away from the wall.
(Note: You will have more success with this program if it is quiet and if you are the only group in the room working on this. Find a space away from other groups.)

Challenge 8 - Christopher Colum-bot

Send your robot on a trip from one place to another and return to within 30 cm of the starting point. Use the hallway if needed. If you bump into something, Queen Isabell-bot will get annoyed! (HINT: Solve one leg of the journey at a time.)

Challenge 9 - Synchronized ~~Swimmers~~ Drivers

With another group, create a routine in which both robots:

- dance in unison
- dance with symmetry (e. g. one robot goes right, the other goes left)
- take turns while dancing
- end at the same time
- avoid collisions.