

Forward & Back

Mindstorms Challenge 1: Moving Your Robot

Team Members: _____ Period: _____

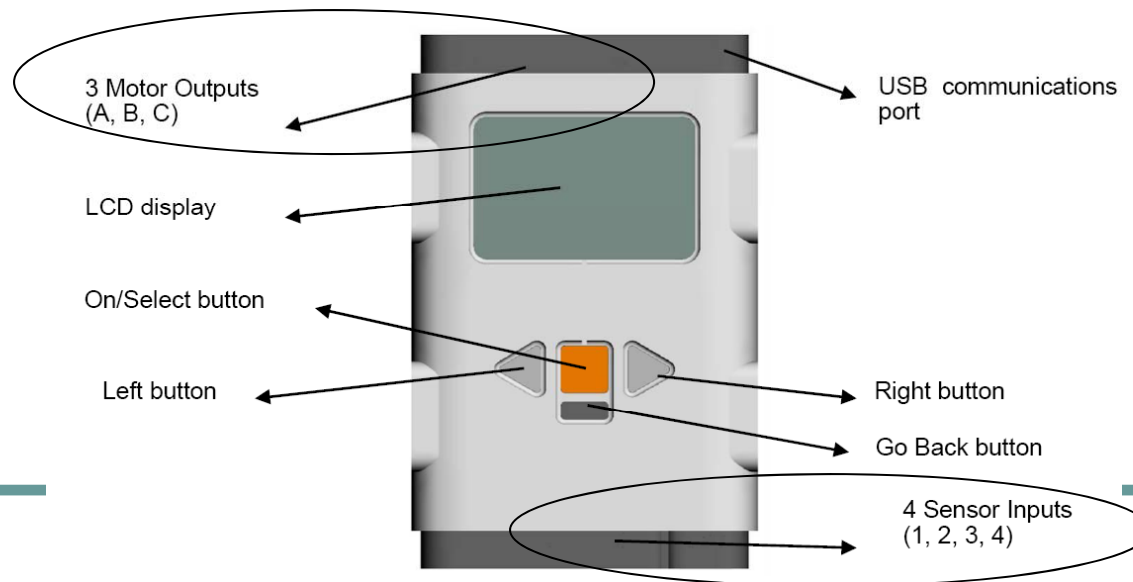
AFTER DEMONSTRATING ALL MISSIONS, TURN THIS PACKET IN

Moving Your Robot

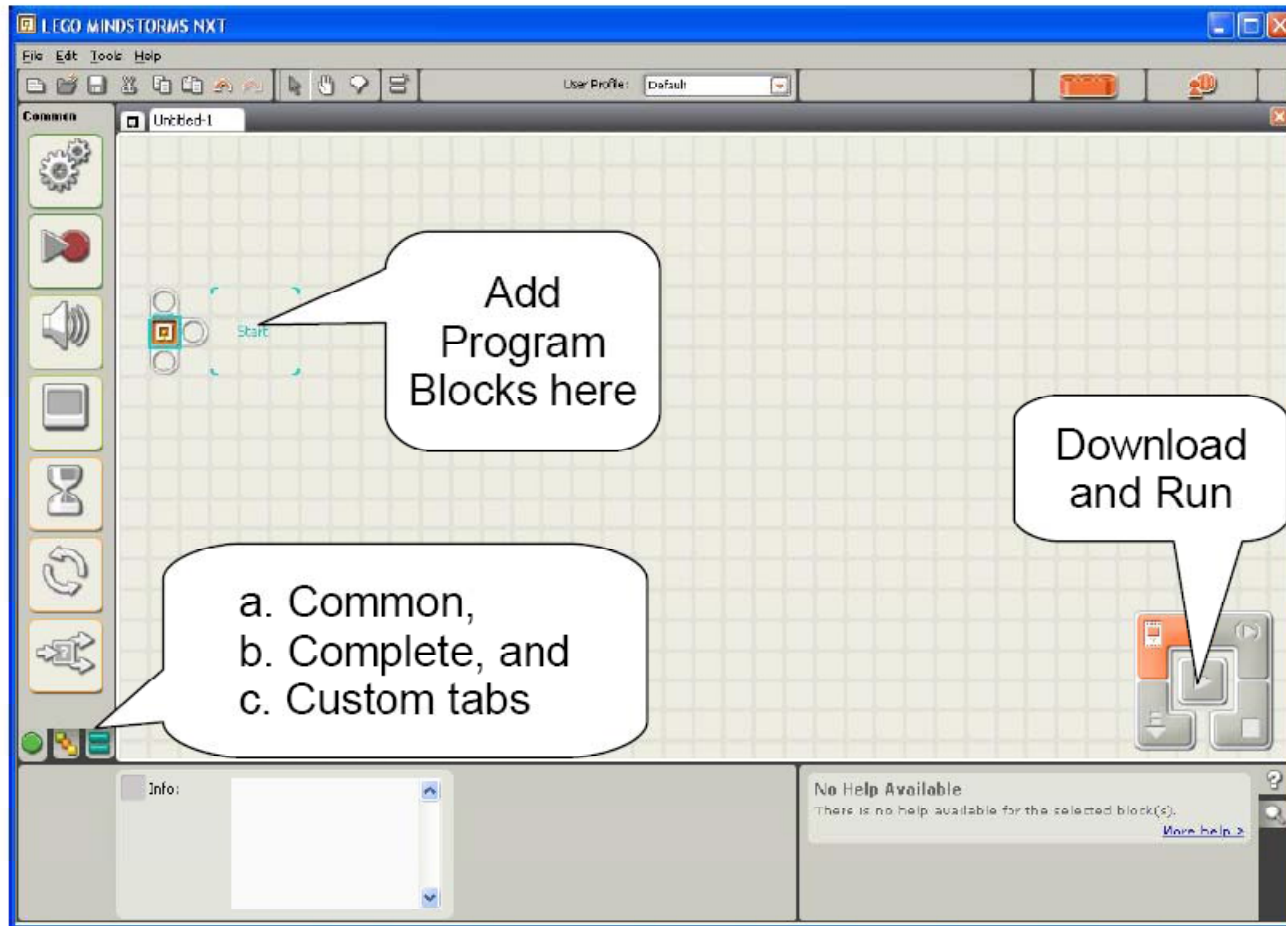
- Moving your robot is the action you will do the most often. You need to be very comfortable with this action.
- In this Challenge we will explore various robot movements.

The Mindstorms Brain

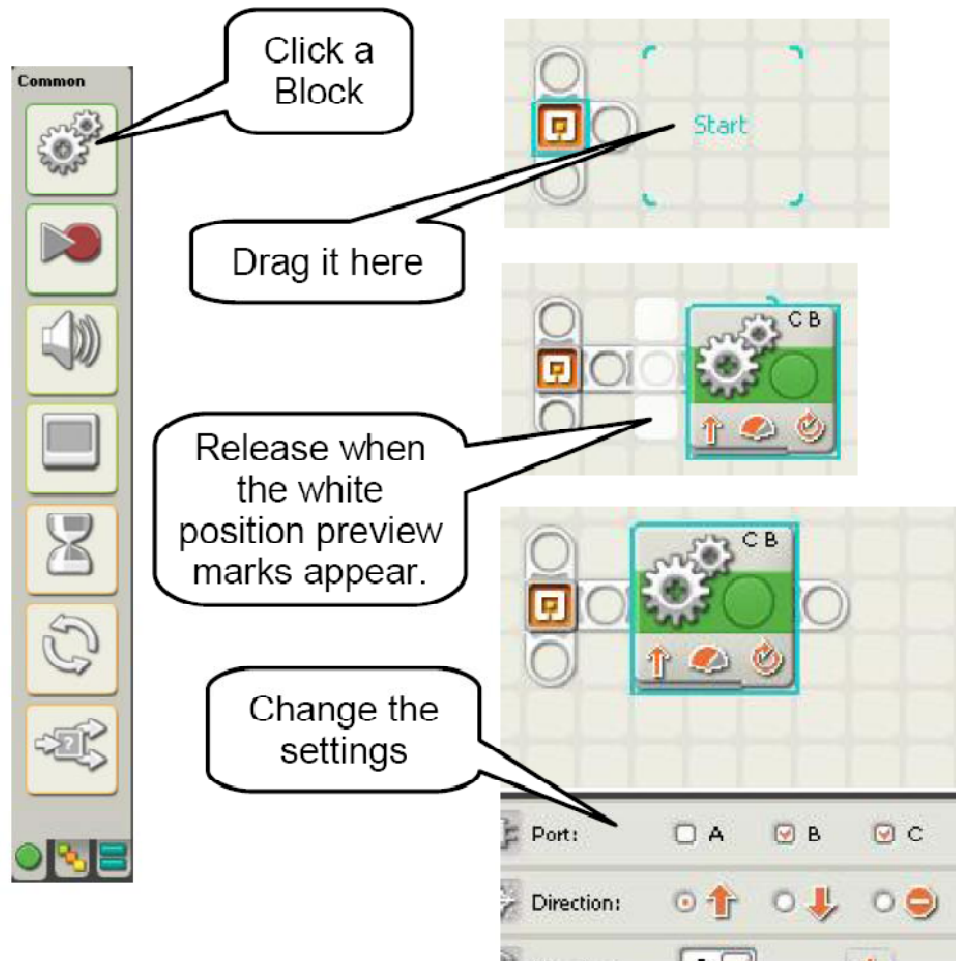
- 4 input ports –take information from the outside into the robot
- 3 output ports – send information from the robot outside to do something



Programming

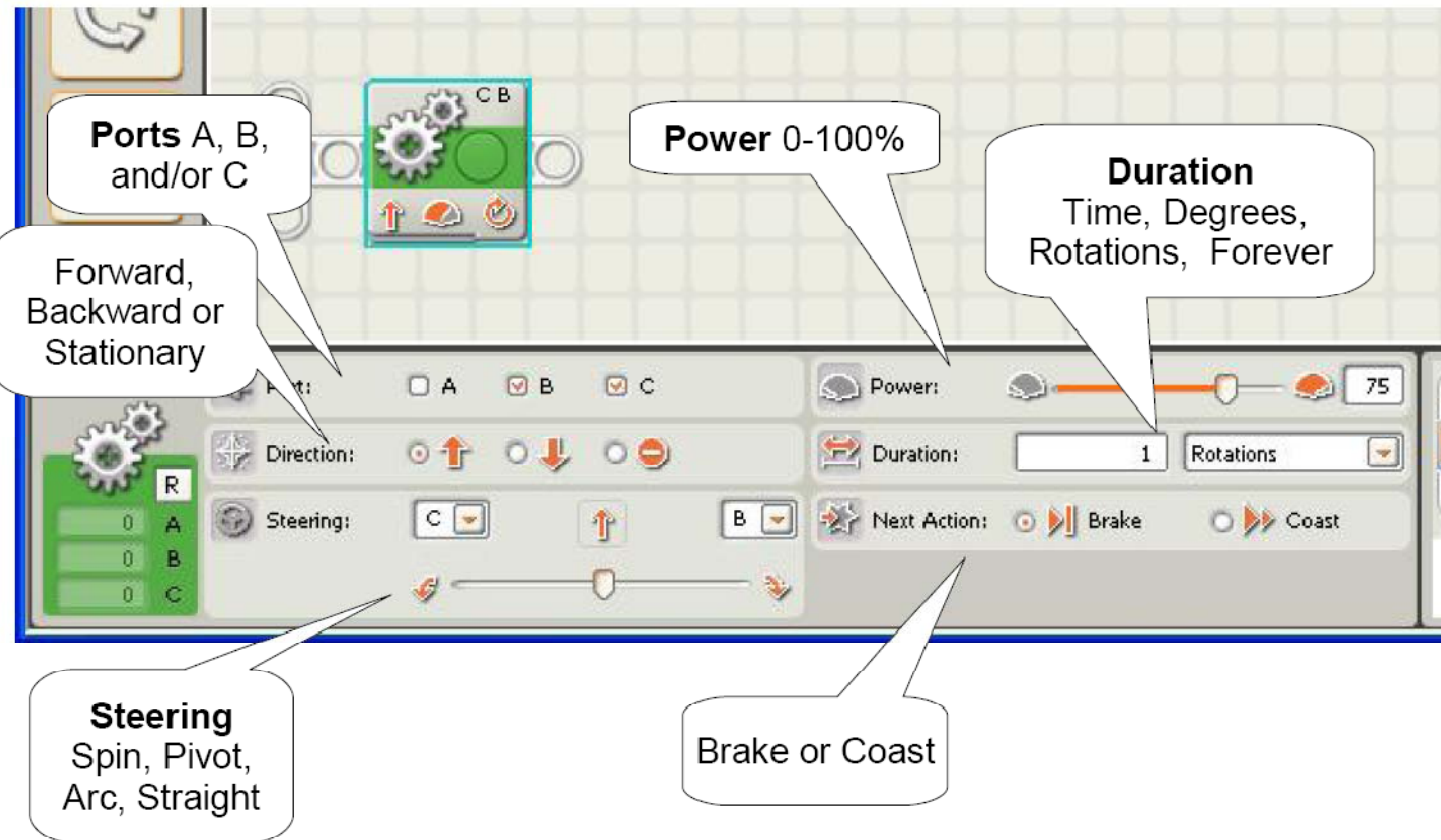


Adding a Block to the Program



- Click on a Block
- Move cursor onto Program and drop it into place. NXT-G will make room.
- Change settings

Programming a Move Block

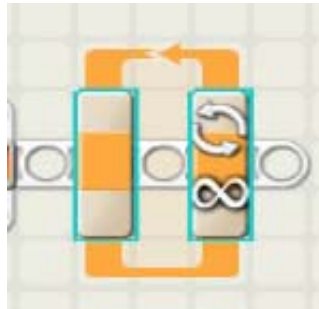


Programming a Loop

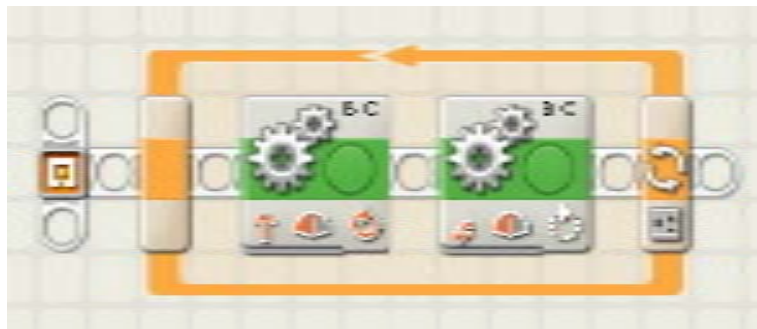


Move

Loop



- Select loop



- Add the move blocks inside the loop.
It will execute the loop until it reaches whatever condition you have set. More on this later.

Challenge 1 Mission 1 – Move it

- Design & construct a robot and program it to travel in a straight line going forward
- Once you can make it go forward, make a program to go backward. This can be in the same program or a different program.

WHEN COMPLETE, SHOW YOUR TEACHER

Teacher's Initials: _____

Challenge 1 Mission 2 – Move it Forever

- Make the robot go forward and then backward continuously in the same program

WHEN COMPLETE, SHOW YOUR TEACHER

Teacher's Initials: _____

Challenge 1 Bonus Mission

THIS IS AN OPTIONAL MISSION TO BE WORKED ON IF YOU COMPLETE THE OTHER MISSIONS.

- In the Advanced Mission, you made the robot go forwards and backwards over and over. Did it always return back to the exact same spot? If not, try and figure out why and what you could do to fix it.
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