

Motion command logic discussed at NE Library Robotic Club for the 15-sec Autonomous Period

The initial program in autonomous must recognize two things: the station from where your team is playing (Right, Center, Left), and which side of each target are yours for this play. The strategies that you decided upon were the following target and navigation pairs:

Left Station: (assumption that robot is close to left wall)

- (A) Target: Near left switch
Navigation: Forward N1, Right 90, Forward N2 (you have to determine the Ns)
- (B) Target: Far left switch
Navigation: Forward N1, Right 90, Forward N2
- (C) Target: Near right switch
Navigation: Forward N1, Right 90, Forward N2, Right 90, Forward N3

Center Station:

- (D) Target: Near left switch
Navigation: Forward N1, Left 90, Forward N2, Right 90, Forward N3
- (E) Target: Near right switch
Navigation: Forward N1, Right 90, Forward N2, Left 90, Forward N3

Right Station: (assumption that robot is close to right wall)

- (F) Target: Near right switch
Navigation: Forward N1, Left 90, Forward N2
- (G) Target: Far right switch
Navigation: Forward N1, Left 90, Forward N2
- (H) Target: Near left switch
Navigation: Forward N1, Left 90, Forward N2, Left 90, Forward N3

After determining at which station you are positioned and available targets, next call a single program for motion execution. That program should accept up to 10 navigation parameters,

Example: `rc = execAuto(F5,R90,F10,L90,B6,' ',' ',' ',' '); //empty args set SPACE`

The programming of `execAuto` should parse each received parameter into a motion and a numerical extent, then place them into an array.

Convert each parameter pair before you load into the array, or later when accessing.

```
char motion[i] = argN.charAt(0);
int extent[i] = Integer.parseInt( argN.substring(1) );
```

Now build a Loop and Switch to call each Command Class as determined by the motion character, with the extent as an argument.

Example:

```
for (int i=0; i < myArray.length; i++)
{
    switch(motion[i])
    {
        case 'F':
            {
                addSequential(new MoveForward(extent[i]));
                break;
            }
        case 'B':
            {
                addSequential(new MoveBackward(extent[i]));
                break;
            }
        case 'L':
            {
                addSequential(new RotateLeft(extent[i]));
                break;
            }
        case 'R':
            {
                addSequential(new RotateRight(extent[i]));
                break;
            }
        default:
            {
                System.out.println("What was this? "+motion[i]);
                break;
            }
    } //end switch
} //end for loop
```