

Team 338A VR Skills Challenge

Students: Arav, Emilie, Madden, Samuel, and Timmy

Team: 338A

Location: Louisville, KY

Description:

How we learned to use sensors in our VRC competitions.

```
when started
whenStarted
drive forward for 57 inches
turn to heading 270 degrees
```

Score preload in the blue goal

```
Outtake
turn to heading 5 degrees
set drive velocity to 100 %
turn to heading 270 degrees and don't wait
wait 0.3 seconds
```

Score the preload we positioned on the field in the blue goal

```
Outtake
set drive velocity to 80 %
turn to heading 90 degrees
drive forward for 70 inches
spin IntakeMotor outtake
wait 0.9 seconds
set drive velocity to 100 %
drive reverse for 5 inches
```

Pick up both of the centrally positioned triballs and go over the barrier to score them

```
spin IntakeMotor intake
turn to heading 220 degrees
drive forward for 42 inches
drive reverse for 20 inches
turn to heading 75 degrees and don't wait
if drive is moving? then
wait movingTime seconds
Outtake
```

Come back near the barrier and get the triball next to the red elevation bar and score it

If statement checks if the drive is moving, and if it is, it waits for movingTime seconds.

```
turn to heading 250 degrees
drive forward for 9 inches
drive reverse for 9 inches
turn to heading 90 degrees
drive forward for 10 inches
Outtake
```

Come back near the barrier and get the triball between the middle and red elevation bar and score it

```
turn to heading 320 degrees
drive forward for 40 inches
drive reverse for 17 inches
turn to heading 90 degrees
drive forward for 15 inches and don't wait
Outtake
```

Come back near the barrier and get the triball between the middle and blue elevation bar and score it

```
turn to heading 320 degrees
drive forward for 40 inches
drive reverse for 28 inches
turn to heading 90 degrees
drive forward for 6 inches and don't wait
Outtake
```

Come back near the barrier and get the triball next to the blue elevation bar and score it

```
turn to heading 35 degrees
drive forward for 55 inches
turn to heading 180 degrees
drive forward for 10 inches and don't wait
Outtake
```

Get and score the triball from the blue loading zone near the blue elevation bar

```
turn to heading 320 degrees
drive forward for 20 inches
turn to heading 270 degrees
```

```
drive forward for 35 inches
drive reverse for 35 inches
turn to heading 140 degrees
drive forward for 30 inches
```

Get the triball underneath the blue elevation bar and score it

Outtake

```
drive reverse for 32 inches
turn to heading 270 degrees
drive forward for 80 inches
turn to heading 287 degrees
```

Go to the red loading zone #1 and get a triball and score it

```
drive forward for 12.5 inches
drive reverse for 18 inches
turn to heading 180 degrees
drive forward for 38 inches
turn to heading 90 degrees
```

```
drive forward for 45 inches and don't wait
```

```
if drive is moving? then
  wait movingTime seconds
```

If statement checks if the drive is moving, and waits movingTime seconds if it is

Outtake

```
drive reverse for 29 inches
turn to heading 315 degrees
drive forward for 55 inches
drive reverse for 65 inches
turn to heading 90 degrees
```

Go back to the red loading zone and get another triball and score it a little bit further to the right

```
drive forward for 29 inches and don't wait
```

```
if drive is moving? then
  wait movingTime seconds
```

If statement checks if the drive is moving, and waits movingTime seconds if it is

Outtake

```
drive reverse for 28 inches
turn to heading 315 degrees
drive forward for 65 inches
drive reverse for 65 inches
turn to heading 180 degrees
```

Go back to the red loading zone and get another triball and score it even further to the right

```
drive forward for 11 inches
turn to heading 90 degrees
drive forward for 29 inches and don't wait
```

```
if drive is moving? then
  wait movingTime seconds
```

If statement checks if the drive is moving, and waits movingTime seconds if it is

Outtake

```
drive reverse for 29 inches
turn to heading 0 degrees
drive forward for 11 inches
turn to heading 315 degrees
drive forward for 65 inches
```

Go back to the red loading zone

```
define Outtake
  spin IntakeMotor outtake
  wait 0.75 seconds
  spin IntakeMotor intake
```

A function we developed after realizing we use the same 3 lines of code every time we go to score. Instead of repeating lines, we made a function we can use every time. This function just outtakes for 0.75 seconds and then intakes after. Intaking at the end instead of stopping the intake motor also allows us to not waste time when we go to pick up another triball.

```
define whenStarted
  set drive velocity to 100 %
  set turn velocity to 100 %
  set IntakeMotor velocity to 100 %
  set ArmMotor velocity to 100 %
  spin ArmMotor down
  set movingTime to 0.1
```

We also made this function after we realized that we had done the same 5 lines of code at the start of every run we attempted. After we realized this, we made this function which allows us to just copy and paste it back and forth rather than spending time every single time we try something new.

We also use a variable called movingTime that is set to 0.1 We use this variable every time we want to wait after checking if the drive is still moving