

VEXcode Vr Skills Challenge - Elementary School

Micah Motes

69582A

Bradford, Arkansas, USA

I used Vision Sensors to detect the color green so that it would only pick up the green blocks, avoiding the purple. I used loops several times throughout the code to repeat actions and shorten the code. I could have used more, but every change I made caused more errors. I was trying to get the highest score I could possibly get, If I had more time I could loop more actions.

The screenshot shows the VEXcode VR code editor interface. The top bar includes a 'Sign in' button, the project name '69582A CODE', and various utility icons. The left sidebar contains a 'Code' tab and a 'My Blocks' section with a 'comment' block. The main workspace displays two scripts. The first script, titled 'when started', begins with a 'repeat until' loop that continues until the 'FrontOptical' sensor finds an object and detects green. Inside this loop, there is an 'if' statement that checks if the sensor found an object and detected green. If true, it spins the 'IntakeMotorGroup' for 20 degrees. Another 'if' statement checks if the 'IntakeMotorGroup' is done, and if so, it enters a 'while' loop that runs as long as 'drive is done', with a 'break' statement inside. The second script, also titled 'when started', contains several comment blocks explaining the logic: 'first, we set the drive velocity and the turn velocity to 100% to make it faster.', 'Next we move forward while pushing the green blocks towards the goal.', 'We set the intake motor group velocity to 100% so we can move faster and save time.', and 'We spin the intake 10 times to make sure we pick up the blocks.'. The code blocks are color-coded: blue for 'set' and 'spin', orange for 'repeat until', and yellow for 'if' and 'while' loops. The bottom of the screen shows a Windows taskbar with the search bar, system tray, and date/time (4:05 PM 1/30/2024).

VR Code Editor interface showing a sequence of blocks for a robot program. The code includes:

- set IntakeMotorGroup velocity to 100 %
- We spin the intake 10 times to make sure we pick up the blocks.
- repeat 10
 - spin IntakeMotorGroup intake
 - turn left for 30 degrees
- We reversed to knock the red down.
- drive reverse for 1 inches
- drive forward for 13 inches
- turn right for 90 degrees
- drive forward for 3 inches and don't wait
- For this chunk we get 2 blocks and put them into goal 3.
- spin ArmMotorGroup up for 320 degrees
- drive forward for 2.5 inches
- turn left for 20 degrees
- spin ArmMotorGroup up for 10 degrees
- drive forward for 1 inches
- spin IntakeMotorGroup outtake for 1 turns
- drive reverse for 5 inches
- turn right for 30 degrees
- spin ArmMotorGroup down for 330 degrees
- spin IntakeMotorGroup intake for 400 degrees
- drive forward for 6 inches
- set drive heading to 280 degrees

VR Code Editor interface showing a sequence of blocks for a robot program. The code includes:

- drive forward for 6 inches
- set drive heading to 280 degrees
- drive reverse for 5 inches
- turn left for 30 degrees
- drive forward for 3 inches
- spin ArmMotorGroup up for 1 turns
- drive forward for 3 inches
- spin IntakeMotorGroup outtake for 1 turns
- turn left for 20 degrees
- For this chunk we back up to hit the red, then after we do that, we drive up to hit the other red.
- drive reverse for 42 inches
- drive forward for 2 inches
- turn right for 76 degrees
- spin ArmMotorGroup down for 1 turns
- drive forward for 21 inches
- turn right for 18.8 degrees
- For this chunk we intake and outtake 2 blocks into goal 1.
- spin IntakeMotorGroup intake for 3 turns and don't wait
- turn left for 18.6 degrees
- drive forward for 4 inches
- drive reverse for 2 inches
- turn right for 88 degrees
- drive forward for 20 inches
- turn right for 18.3 degrees

Sign in | VEXcode VR | https://vtr.vex.com | 69582A CODE

Code

Drive Train
Motion
Loops
Events
Control
Sensing
Variables
Operators
Variables
My Blocks
Comments

Make a Variable
myVariable
set myVariable to 0
change myVariable by 1

Make a Boolean
Make a List
Make a 2D List
My Blocks
Make a Block
Comments
comment

```
drive forward for 20 inches
turn right for 18.5 degrees
drive forward for 26 inches
spin ArmMotorGroup up for 1 turns
drive forward for 2.6 inches
spin IntakeMotorGroup outtake for 3 turns
drive reverse for 2 inches
turn left for 20 degrees
spin ArmMotorGroup down for 1 turns
drive forward for 23 mm
drive reverse for 3 inches
turn right for 20 degrees
drive forward for 120 mm
drive reverse for 11 inches
turn right for 30 degrees
drive reverse for 5 inches
turn right for 36 degrees
spin IntakeMotorGroup intake for 5 turns and don't wait
drive forward for 60 mm
turn left for 40 degrees
spin ArmMotorGroup up for 1 turns and don't wait
drive forward for 20.6 inches
spin IntakeMotorGroup outtake for 2 turns
spin ArmMotorGroup down for 1 turns
```

64°F Sunny 4:05 PM 1/30/2024

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Code

- or
- not
- Motion
 - round 0
- Logic
 - abs = of 0
- Events
 - remainder of 0 / 0
- Control
 - start of X: 1 Y: 1
- Sensing
- Variables
- Operators
 - Make a Variable
- Variables
 - myVariable
- My Blocks
 - set myVariable = to 0
 - change myVariable = by 1
 - Make a Boolean
 - Make a List
 - Make a 2D List
- Comments
 - Make a Block
 - comment

turn left for 60 degrees

spin ArmMotorGroup up for 1 turns and don't wait

drive forward for 28.6 inches

spin IntakeMotorGroup outtake for 2 turns

spin ArmMotorGroup down for 1 turns and don't wait

drive reverse for 20 inches

turn right for 107.6 degrees

For this chunk we drive over to goal 2 and put 2 blocks into the goal to gain the uniform bonus like we did before on all other goals, but we also get the uniform goal bonus, because we have all goals with 2 blocks that are the same. In each goal.

drive forward for 31 inches

turn left for 60 degrees

drive reverse for 15 inches

turn right for 17 degrees

drive forward for 7 inches

spin IntakeMotorGroup intake for 2 turns

turn left for 60 degrees

turn left for 20 degrees

drive forward for 7 inches

turn right for 18 degrees

drive forward for 4.7 inches

spin ArmMotorGroup up for 1 turns

spin IntakeMotorGroup outtake for 3 turns

drive reverse for 1.6 inches

spin ArmMotorGroup down for 1 turns

drive reverse for 4.6 inches

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Code

- or
- not
- Motion
 - round 0
- Logic
 - abs = of 0
- Events
 - remainder of 0 / 0
- Control
 - start of X: 1 Y: 1
- Sensing
- Variables
- Operators
 - Make a Variable
- Variables
 - myVariable
- My Blocks
 - set myVariable = to 0
 - change myVariable = by 1
 - Make a Boolean
 - Make a List
 - Make a 2D List
- Comments
 - Make a Block
 - comment

turn right for 18 degrees

drive forward for 4.7 inches

spin ArmMotorGroup up for 1 turns

spin IntakeMotorGroup outtake for 3 turns

drive reverse for 4.6 inches

spin ArmMotorGroup down for 1 turns

drive reverse for 4.6 inches

turn right for 64.8 degrees

drive forward for 2 inches

spin IntakeMotorGroup intake for 2 turns

turn left for 52.6 degrees

spin ArmMotorGroup up for 1 turns and don't wait

drive forward for 18 inches

turn left for 40 degrees

drive forward for 1.6 inches and don't wait

spin IntakeMotorGroup outtake for 20 turns

The end.