Scorching Donuts VR Challenge

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Number: 21350F

Location: Trinity Grammar School Strathfield NSW Australia

Ranking: 79th in the World with 66 points

67	67	7	38154B	Wardley Robotics	Wardley Primary School	United Kingdom	United Kingdom
68	67	5	27112F	陈分利泽VIQC二队	Branch Of Beijing Chenjinglun Middle School	China	China
69	67	2	68671B	Tomato Devils	DANVILLE ELEMENTARY SCHOOL	Ohio	United States
70	67	0	91343A	Vintage Team A	VINTAGE MATH/SCIENCE/TECHNOLOGY MAGNET	California - South	United States
71	67	0	71030G	PNP-G	PNP studio	China	China
72	67	0	2549C	Breaking Bad	Magikid San Marino Lab	California - South	United States
73	67	0	46000A	Curious Coders	Nonr	Pennsylvania - East	United States
74	66	25	98988C	That Team	STEMSTAR-DAMUZHI	China	China
75	66	16	2076C	Two Piece	Knox Grammar School	Australia	Australia
76	66	11	60919B	Canton invincible B	K.C.ROBOT.Lab	China	China
77	66	9	66396B	Bigfoot Believers	Barkley Bridge Elementary School	Alabama	United States
78	66	9	15034H	BadgerBOTS H	BINFORD ELEMENTARY SCHOOL	Indiana	United States
79	66	8	21350F	Scorching Donuts	Trinity Grammar School	Australia	Australia
80	66	8	97793E	Hicks Team E	HICKS CANYON ELEMENTARY	California - South	United States
81	66	4	67076A	VEXJunior	Kadriye Kemal Gürel İlkokulu	Türkiye	Türkiye
82	66	4	816A	Robinson bRAiNGERS	G W ROBINSON	Texas - Region 3	United States
83	66	3	36356D	Baby Hornets	MARGARET B HENDERSON ELEMENTARY SCHOOL	Texas - Region 2	United States
84	66	3	2425B	Rosco Roadrunners	Roscomare Road Elementary	California - South	United States

When Started:
This block is used to start our code.
When you press start on the VEX IQ Full Volume playground this code that I created will make the robot move.
If you don't have a starting function your robot will not be able to move.

Drive Velocity:
Velocity means speed, the higher the speed of the robot the faster the robot will go. I set the drive, are and intake velocity to 100% because this allowed for us to have maximum movements in the one minute time. If you have a faster velocity you need to make sure that your code is more accurate as a faster robot can crash easier. You have to put the velocity first in the code because the code is read and done in the order that you put in.

Wait Time:
Having a wait time means that the robot will stop for the time you have set. I added a wait time of 1 second when the robot is out taking the blocks. This is because without the wait time the robot moves away immediately and sometimes it means the block doesn't have time to fall into the goal. I experimented with the wait times and found that 1 second was the shortest time I could use and still get accurate results.

Intake and Outtake:
When intaking and outtaking the blocks I have set this to 180 degrees this means that the front spinners move for half a circles rotation to go in (intake) then hold the block inside, when ready the code then makes it move back 180 (outtake) so that the block can be scored in the goal. 180 degrees means I could save time by not doing a full 360 degree rotation.

Arm Movement:
Throughout our code we need to regular move the robots arm up and down. This is so the robot can collect and score the blocks. 360 degrees allows for the robots arm to be up at the perfect height for the goals and then so that more blocks to be collected the arm needs to move back down to the same point of 360 to collect the blocks.

Turning:
When programming the turns for the robot I needed to be exact with the degrees that I was using. Each turn in this code is different because the blocks are all at different locations on the field. The turns need to be precise and accurate so that the robot would successfully collect the cubes each time.