

By Loren Honeysuckle from team 5691A, in Bryant Arkansas.

```
#region VEXcode Generated Robot Configuration
import math
import random
from vexcode_vrc import *
from vexcode_vrc.events import get_Task_func

# Brain should be defined by default
brain=Brain()

drivetrain = Drivetrain("drivetrain", 0)
arm_motor = Motor("ArmMotor", 3)
rotation = Rotation("Rotation", 7)
intake_motor = Motor("IntakeMotor", 8)
optical = Optical("Optical", 11)
gps = GPS("GPS", 20)

#endregion VEXcode Generated Robot Configuration
# -----
#
# Project:      VEXcode Project
# Author:      VEX
# Created:
# Description:  VEXcode VR Python Project
#
# -----

def main():

    def TARR():
        drivetrain.turn(RIGHT)
        if optical.is_near_object() :
            drivetrain.drive_for(FORWARD, 10, INCHES,wait=False)
            intake_motor.spin_for(FORWARD, 200, DEGREES)
        else:
            wait(0.1, SECONDS)
            TARR()

# This is our function which locates and picks up triballs via the optical sensor.
# "TARR" stands for Turn And Run Right

    def TARL():
        drivetrain.turn(LEFT)
        if optical.is_near_object() :
```

```

        drivetrain.drive_for(FORWARD, 10, INCHES,wait=False)
        intake_motor.spin_for(FORWARD, 200, DEGREES)
    else:
        wait(0.1, SECONDS)

    TARR()
#This is the same as the initial function, except it turns to the left to check for
triballs.
#"TARR" Stands for Turn And Run Left.

def BTBR():
    drivetrain.drive_for(REVERSE, 15, INCHES,wait=False)
    arm_motor.spin_for(FORWARD, 300, DEGREES)
    wait(0.25, SECONDS)
    drivetrain.turn_for(RIGHT, 70, DEGREES)
    drivetrain.drive_for(FORWARD, 11.8, INCHES)
    TARR()
    drivetrain.drive_for(REVERSE, Drive1, INCHES)
    drivetrain.turn_for(LEFT, Turn1 , DEGREES, wait=True)
    drivetrain.drive_for(FORWARD, Drive2, INCHES,wait=False)
    arm_motor.spin_for(REVERSE, 300, DEGREES, wait=False)
    wait(0.1, SECONDS)
    intake_motor.spin_for(REVERSE, 500, DEGREES)
#This is the Barrier Triball Right code.
#It is for picking up and scoring triballs on the Right of the robot on the barrier.

drivetrain.set_turn_velocity(100, PERCENT)
intake_motor.set_velocity(100, PERCENT)
arm_motor.set_velocity(100, PERCENT)
drivetrain.set_drive_velocity(100, PERCENT)
#All velocity is set to 100 to make our robot run as quickly as possible.

drivetrain.drive_for(FORWARD, 53, INCHES, wait=False)
arm_motor.spin_for(FORWARD, 1800, DEGREES)
#Adding the "wait=False" here allows these two lines to run at the same time.
#This is used throughout or code as it is a huge timesaver and maximizes efficiency

drivetrain.turn_for(LEFT, 20, DEGREES, wait=False)
intake_motor.spin_for(REVERSE, 400, DEGREES)
#End of scoring alliance triball one.

```

```

drivetrain.turn_for(RIGHT, 20, DEGREES)
intake_motor.spin_for(FORWARD, 250, DEGREES)
#End of picking up alliance triball two.
drivetrain.turn_for(LEFT, 40, DEGREES, wait=False)
intake_motor.spin_for(REVERSE, 400, DEGREES)
#End of scoring alliance triball two.
#This method and alliance triball placement was derived from team ENTER TEAM HERE

drivetrain.drive_for(REVERSE, 10, INCHES )
drivetrain.set_turn_velocity(70, PERCENT)
TARR()
#The function effectively picks up triball three.
#Despite slight changes that can occur in the triball's placement, it will always
be picked up.
# This is because the function instructs that the robot turns until an object is
detected
drivetrain.set_turn_velocity(100, PERCENT)
#A turn was eliminated here to maximize our time usage.
drivetrain.drive_for(FORWARD, 17, INCHES, wait=False )
arm_motor.spin_for(REVERSE, 300, DEGREES)
#The arm needs to be brought slightly up in order to properly score the triball.

drivetrain.turn_for(RIGHT, 64, DEGREES)
drivetrain.drive_for(FORWARD, 19, INCHES, wait=False)
wait(0.5, SECONDS)
intake_motor.spin_for(REVERSE, 400, DEGREES)
#End of scoring triball three, shooting from half field.
#We discovered this strategy from team 1356B

#This begins the NON BTBR section.
drivetrain.drive_for(REVERSE, 16, INCHES,wait=False)
arm_motor.spin_for(FORWARD, 300, DEGREES)
drivetrain.set_turn_velocity(60, PERCENT)
TARL()
#End of picking up triball 4
drivetrain.drive_for(REVERSE, 7, INCHES)
drivetrain.turn_for(RIGHT, 60, DEGREES)
drivetrain.drive_for(FORWARD, 13.5, INCHES,wait=False)
arm_motor.spin_for(REVERSE, 300, DEGREES, wait=False)
wait(0.5,SECONDS)
intake_motor.spin_for(REVERSE, 500, DEGREES)
#End of scoring triball four

Turn1=73
Drive1=3
Drive2=10
drivetrain.set_turn_velocity(60, PERCENT)

```

```
BTBR()
#End of scoring triball five

Turn1=90
Drive1=7
Drive2=10
BTBR()
#end of scoring triball Six

wait(0.2,SECONDS)
Turn1=72
Drive1=25
Drive2=20
BTBR()
#end of scoring seven

drivetrain.drive_for(REVERSE, 12, INCHES,wait=False)
arm_motor.spin_for(FORWARD, 300, DEGREES)
drivetrain.turn_for(LEFT, 88, DEGREES)
drivetrain.drive_for(FORWARD, 45, INCHES)
TARR()
#end of picking up triball five)
drivetrain.drive_for(REVERSE, 35, INCHES)
drivetrain.set_drive_velocity(50, PERCENT)
drivetrain.turn_for(RIGHT, 65, DEGREES)
drivetrain.drive_for(FORWARD, 25, INCHES,wait=False)
arm_motor.spin_for(REVERSE, 300, DEGREES, wait=False)
wait(0.25,SECONDS)
intake_motor.spin_for(REVERSE, 500, DEGREES)
#End of scoring triball seven

# VR threads - Do not delete
vr_thread(main)
```