Student Name: Bonkers Feb 28 Comp Prototype

Assignment: DC STATES COMPETITION

Notes: Includes tank drive 4 wheel vs 6 wheel toggle, and concept for intake; however has no Outake! Created by Lorenzo Diiorio

Project Name: BONKERS

Project Type: Python

Date: Sun Jan 25 2026

```python
#region VEXcode Generated Robot Configuration
from vex import *
import urandom
import math

# ================================================
# Brain + Controller
# ================================================
brain = Brain()
controller = Controller(PRIMARY)

# wait for devices to initialize
wait(30, MSEC)

# ================================================
# Random Seed
# ================================================
def initializeRandomSeed():
    wait(100, MSEC)
    seed = (
        brain.battery.voltage(MV)
        + brain.battery.current(CurrentUnits.AMP) * 100
        + brain.timer.system_high_res()
    )
    urandom.seed(int(seed))

initializeRandomSeed()

# ================================================
# 6-Motor Drivetrain
# ================================================
left_drive = MotorGroup(
    Motor(Ports.PORT1, GearSetting.RATIO_36_1, False),
    Motor(Ports.PORT2, GearSetting.RATIO_36_1, False),
    Motor(Ports.PORT3, GearSetting.RATIO_36_1, False)
)

right_drive = MotorGroup(
    Motor(Ports.PORT15, GearSetting.RATIO_36_1, True),
    Motor(Ports.PORT13, GearSetting.RATIO_36_1, True),
    Motor(Ports.PORT14, GearSetting.RATIO_36_1, True)
)

# ================================================
# Intake System
# ================================================
intake = MotorGroup(
    Motor(Ports.PORT4, GearSetting.RATIO_18_1, False),
    Motor(Ports.PORT5, GearSetting.RATIO_18_1, True),
    Motor(Ports.PORT6, GearSetting.RATIO_18_1, False),
    Motor(Ports.PORT7, GearSetting.RATIO_18_1, True),
    Motor(Ports.PORT8, GearSetting.RATIO_18_1, False),
    Motor(Ports.PORT9, GearSetting.RATIO_18_1, True)
)

# ================================================
# Helper
# ================================================
def deadband(value, band=5):
    return 0 if abs(value) < band else value

# ================================================
# Drivetrain Helpers
# ================================================
```

```
65    def stop_drive():
66        left_drive.stop(COAST)
67        right_drive.stop(COAST)
68
69    # ============================================================
70    # Autonomous
71    # ============================================================
72    def autonomous():
73        left_drive.spin(FORWARD, 40, PERCENT)
74        right_drive.spin(FORWARD, 40, PERCENT)
75        wait(1.5, SECONDS)
76
77        left_drive.spin(REVERSE, 30, PERCENT)
78        right_drive.spin(FORWARD, 30, PERCENT)
79        wait(0.7, SECONDS)
80
81        stop_drive()
82
83    # ============================================================
84    # User Control (Tank Drive)
85    # ============================================================
86    def usercontrol():
87        while True:
88
89            left_input = deadband(controller.axis3.position())
90            right_input = deadband(controller.axis2.position())
91
92            left_drive.spin(FORWARD, left_input, PERCENT)
93            right_drive.spin(FORWARD, right_input, PERCENT)
94
95            if controller.buttonL1.pressing():
96                intake.spin(FORWARD, 100, PERCENT)
97            elif controller.buttonL2.pressing():
98                intake.spin(REVERSE, 100, PERCENT)
99            else:
100               intake.stop(COAST)
101
102           wait(20, MSEC)
103
104   # ============================================================
105   # Competition Setup
106   # ============================================================
107   competition = Competition(usercontrol, autonomous)
108
109   # ============================================================
110   # Brain Screen Image
111   # ============================================================
112   brain.screen.clear_screen()
113   brain.screen.draw_image_from_file("jerkot.bmp", 0, 0)
114
115   # ============================================================
116   # Keep Program Alive
117   # ============================================================
118   while True:
119       wait(100, MSEC)
120
121
```