CONTROL LOOP

```
import time

# Stub functions to simulate sensor and actuator APIs
def read_weight_sensor():
    # Simulate reading weight sensor data
    print("Reading weight sensor...")
    # Return a sample weight value for demonstration
    return 4.2

def read_color_sensor():
    # Simulate reading color sensor data
    print("Reading color sensor...")
    # Return a sample color value for demonstration
    return "Red"

def activate_actuator(bin_name):
    # Simulate actuator activation
    print(f"Activating actuator to divert package to {bin_name}")

# Main control loop (simplified for demonstration)
def main_loop():
    running = True
    while running:
        # 1. Read sensors
        weight = read_weight_sensor()
        color = read_color_sensor()
```

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        # 2. Make sorting decisions based on sensor data
        if weight > 3:
            bin_for_weight = "Bin B"
        else:
            bin_for_weight = "Bin A"

        bin_for_color = f"Bin {color}"

        # 3. Command actuator based on decisions
        print(f"Package assigned to {bin_for_weight} based on weight")
        print(f"Package assigned to {bin_for_color} based on color")

        activate_actuator(bin_for_weight)
        activate_actuator(bin_for_color)

        # 4. Wait before next iteration (simulate real-time loop)
        time.sleep(2)

        # For demo, run once and stop
        running = False

if __name__ == "__main__":
    print("Starting main control loop...")
    main_loop()
    print("Main loop ended.")
```