01_01_takeoff_and_status_teacher_

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1 Crazyflie Takeoff & Status Notebook

In this notebook, you'll control takeoff height and velocity, and retrieve flight status data.

[ ]:
```
# Set this to True if using the real Crazyflie hardware, or False for␣
↪simulation only
drone = CrazyflieSimulator(real=False)
```

1.1 Basic Takeoff Example

Goal: Take off to 0.6m height at 0.3m/s velocity.

[ ]:
```
drone.takeoff( , )

# time.sleep()
```

1.2 Retrieve Flight Information

You can get drone telemetry and state using the following methods:

1.2.1 Units of Measurement

- **Height**: meters (m)
- **Position**: (x, y) coordinates in meters
- **Yaw**: degrees (0 to 360°)
- **Velocity**: meters per second (m/s) in x, y, and z directions
- **Status**: summary including airborne status and telemetry values
- **Log**: list of executed commands with arguments

1.2.2 Maximum Recommended Velocities

- **Vertical (z)**: ~0.5 m/s (slow for safety)
- **Horizontal (x/y)**: ~0.3–0.5 m/s depending on indoor/outdoor
- **Yaw rotation**: ~180–360°/s for fast turns

[ ]:
```
print("Height:", drone.get_height())
print("Position:", drone.get_position())
print("Yaw:", drone.get_yaw())
print("Velocity:", drone.get_velocity())
print("Status:", drone.get_status())
print("Command Log:", drone.get_log())
```

1.3 Try It Yourself: Change Takeoff Parameters

[ ]:
```
drone.takeoff( , )

# time.sleep()
```

1.4 Done? Close the connection to the drone.

1.5 Exercise: Get Info Before Takeoff

[ ]:
```
print("BEFORE TAKEOFF")
print("Height:", drone.get_height())
print("Position:", drone.get_position())
print("Yaw:", drone.get_yaw())
print("Velocity:", drone.get_velocity())
print("Status:", drone.get_status())
```

1.6 Takeoff and Mid-Flight Info

[ ]:
```
drone.takeoff( , )

# time.sleep()
```

1.7 After Landing Info

[ ]:
```
print("AFTER LANDING")
print("Height:", drone.get_height())
print("Position:", drone.get_position())
print("Yaw:", drone.get_yaw())
print("Velocity:", drone.get_velocity())
print("Status:", drone.get_status())
```

[ ]:
```
drone.close()
```