01_01_takeoff_and_status_student_hs_

May 2, 2025

1 Takeoff and Drone Status – Student Version

In this notebook, you will learn how to take off with the drone and retrieve important information like position, height, yaw, and more. We'll walk you through each step, and you'll fill in the code yourself!

1.1 Crazyflie Command Reference Table

Command	Description	Parameters (units/type)
`takeoff()`	Drone takes off and hovers	height (m/float), speed (m/s/float)
`land()`	Drone lands gently	speed (m/s/float)
`get_position()`	Get X and Y position	None
`get_height()`	Get current height	None
`get_yaw()`	Get rotation angle (yaw)	None
`get_velocity()`	Get current velocity	None
`get_status()`	Shows if drone is flying or on the ground	None
`get_log()`	Shows history of commands sent	None

```
[1]: #  Setup the simulator
     from crazyflie_sim import CrazyflieSimulator
     drone = CrazyflieSimulator(real=False)
```

1.2 Example: Takeoff and Get Height

This example shows how to take off and print the drone's height.

```
[2]: drone.takeoff(0.3, 0.2)
     print("Height:", drone.get_height())
```

```
   Taking off to 0.3m at 0.2m/s!
Executing command: takeoff 0.3 0.2

Height: 0.3
```

1.3 Exercise 1: Takeoff and print height

Take off to **0.4 meters** at **0.2 m/s**, then print the height.

```
[ ]: # Your code here:
```

1.4 Exercise 2: Get drone position

After takeoff, use a command to print the drone's **position**.

```
[ ]: # Your code here:
```

1.5 Exercise 3: Get yaw angle

Use the command to print the **yaw angle** (rotation) of the drone.

```
[ ]: # Your code here:
```

1.6 Exercise 4: Check drone velocity

Use the command to print the **current velocity** of the drone.

```
[ ]: # Your code here:
```

1.7 Exercise 5: Drone status

Check if the drone is in the air or landed.

```
[ ]: # Your code here:
```

1.8 Exercise 6: View command log

Print the history of all commands the drone has received.

```
[ ]: # Your code here:
```

1.9 Exercise 7: Land

Land the drone safely at **0.3 m/s**.

```
[ ]: # Your code here:
```