00_crazyflie_sim_student_version_hs_

May 2, 2025

1 Crazyflie Motion Command Reference

This notebook helps you learn and practice using the different motion commands available in the `CrazyflieSimulator` class.

Use the table below to understand what each command does and what arguments it expects.

1.1 Motion Command Reference Table

Command	Description	Parameters (units/type)
`takeoff()`	Drone takes off into a hover	height (m/float), speed (m/s/float)
`land()`	Drone lands gently	speed (m/s/float)
`forward()`	Move forward	distance (m/float), speed (m/s/float)
`backward()`	Move backward	distance (m/float), speed (m/s/float)
`left()`	Move left	distance (m/float), speed (m/s/float)
`right()`	Move right	distance (m/float), speed (m/s/float)
`up()`	Move upward	distance (m/float), speed (m/s/float)
`down()`	Move downward	distance (m/float), speed (m/s/float)
`rotate()`	Rotate in place (yaw)	angle (degrees/int), duration (s/float)
`circle_left()`	Fly a circle to the left	radius (m/float), speed (m/s/float), angle (degrees/int)
`circle_right()`	Fly a circle to the right	radius (m/float), speed (m/s/float), angle (degrees/int)

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

1.2 Exercise 1: Takeoff

Prompt: Write a command to take off to 0.5 meters at 0.3 m/s

[ ]:
```
# Write your takeoff command below:
```

1.3 Exercise 2: Move forward

Prompt: Move the drone forward by 0.4 meters at 0.2 m/s

[ ]:
```
# Write your forward command below:
```

1.4 Exercise 3: Move left

Prompt: Move the drone left by 0.3 meters at 0.2 m/s

[ ]:
```
# Write your left command below:
```

1.5 Exercise 4: Circle maneuver

Prompt: Fly a left circle with radius 0.3 meters at speed 0.3 m/s

[ ]:
```
# Write your circle_left command below:
```

1.6 Exercise 5: Rotation

Prompt: Rotate 90 degrees in place in 1 second

[ ]:
```
# Write your rotate command below:
```

1.7 Exercise 6: Land

Prompt: Land the drone at 0.3 m/s

[ ]:
```
# Write your land command below:
```