

# Lab 1 Questions

**Robotics & Automation**  
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**Instructions.** Print your name at the top of the page. Turn in this sheet at the end of lab: your lab grade will be based on your answers.

## Question 1.

- How many joints does this robot have?
- What type of joints are they?
- How many degrees of freedom does this robot have?
- Is it a serial robot or a parallel robot?

## Question 2.

## Question 3.

- Is the direction of  $\theta_1$  aligned?
- Is the direction of  $\theta_2$  aligned?
- Is the direction of  $\theta_3$  aligned?

**Question 4.** Write the bias (i.e., the offset) for each joint:

## Question 6.

- Minimum / maximum of  $\theta_1$  [in radians]:
- Minimum / maximum of  $\theta_2$  [in radians]:
- Minimum / maximum of  $\theta_3$  [in radians]:

**Question 7.** You can use the back of this page if you need extra space.