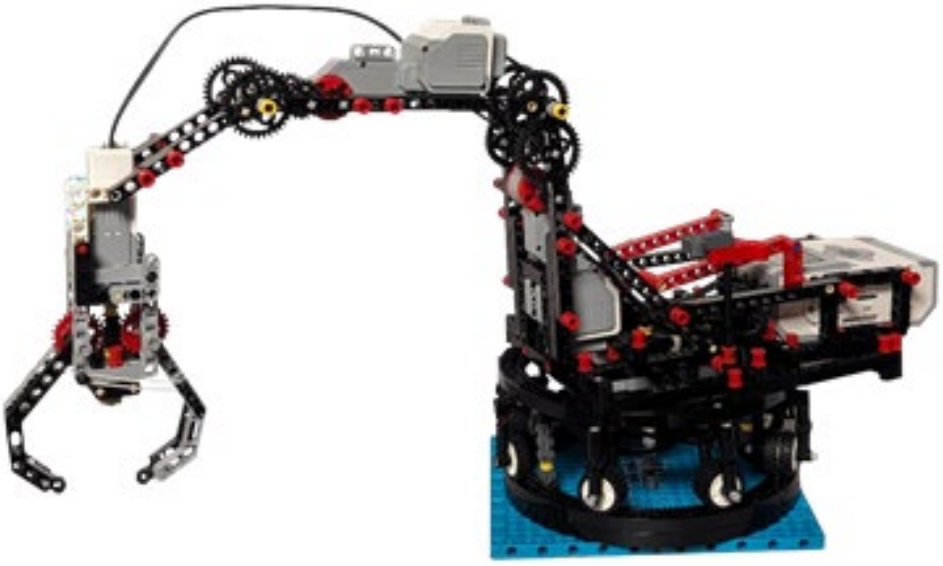
Hochschule Karlsruhe
University of
Applied Sciences

HKA

Operating instructions

Robot Arm - Pick and Place



Contents

Installation

Prerequisites:

- 1x Lego EV3-Brick
- 1x MicroSD-Karte (min. 4GB, max. 32GB)
- Mini-USB-Cable
- EV3 MicroPython v2.0
- (Visual Studio Code + EV3-Extension)

MicroPython Installation

https://pybricks.com/ev3-micropython/startinstall.html

Image MicroPython

https://education.lego.com/en-us/product-resources/mindstorms-ev3/teacher-resources/python-for-ev3/

MicroPython documentation

https://pybricks.com/ev3-micropython/

Before starting

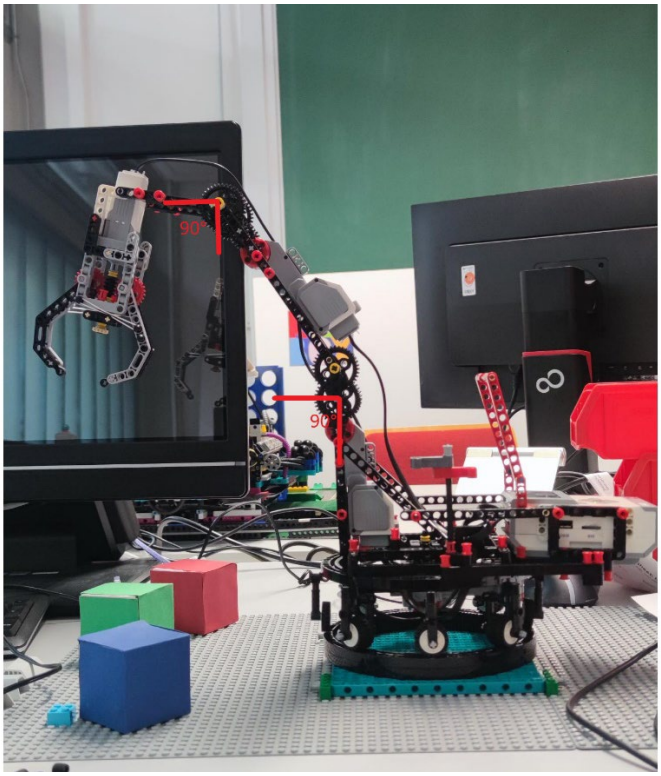
MycroPython must be installed on the EV3 brick. The EV3 brick should be named **EV3 robotic arm.**

https://pybricks.com/ev3-micropython/startlinux.html#changing-the-ev3-brick-name

The EV3 brick should be connected to computer via USB cable.

1. Setup

Before the start, the robot arm must be manually moved to the starting position. The EV3 robot arm is equipped with a **robotarm_motor.py** program for controlling individual motors.

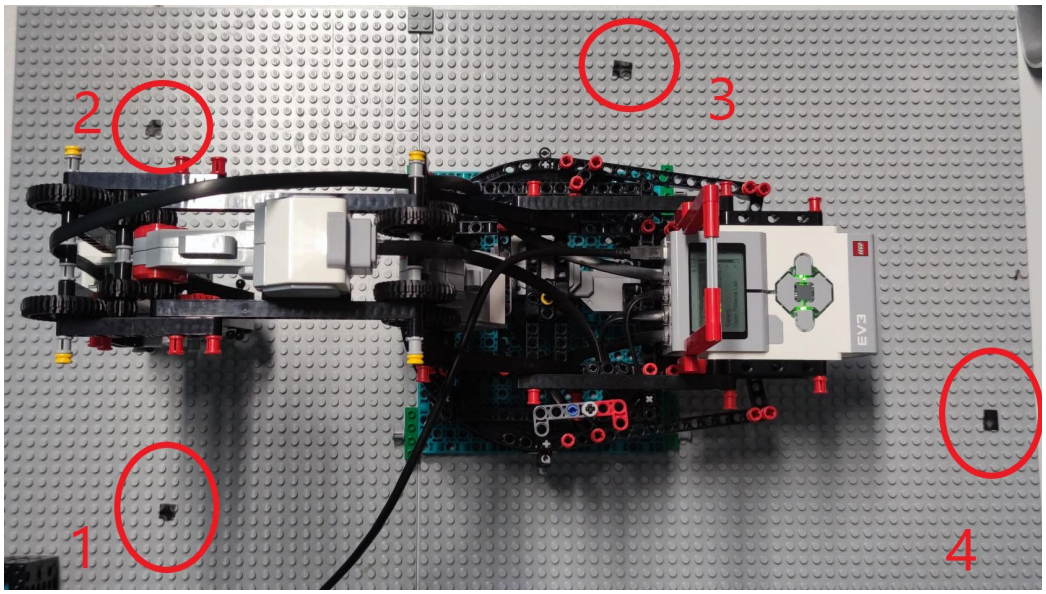


Startposition Roboterarm (photo is not representative of the initial pose) the two arm joints must be oriented at 90° before starting

2. Start EV3 robotic arm

Switch on the EV3 robotic arm and run the **go_to_position.py** program, enter in the terminal “pick x place y” where x and y are number between 1 and 4 and represent the prerecorded position, it will pick a cube at position x and place it at position y.

3. Reachable position



Reachable position for the robot arm