# FETCH REACH ROBOT

## GOAL

Goal: Move the gripper to reach a point (ball's position)

## METHODS (ENV.)

env.get_gripper_position
env.get_ball_position
env.step(action)

## DIRECTION

direction = np.array(variable for gripper position) - np.array( variable for ball position)

## STEPS

1. Set distance threshold.
2. Set step size.
3. Retrieve the balls position & store it in a variable.
4. Retrieve the grippers position & store it in a variable.
5. Calculate the direction vector by subtracting the gripper position from the ball position, wrapping each variable in np.array() to subtract the 3D vectors without errors.
6. Move the gripper using a while loop as long as the direction from the gripper to the ball is greater than the distance threshold. Cast the direction to its magnitude using np.linalg.norm() to be able to compare the vector to a scalar properly. Direction is a vector and distance threshold is a scalar. Cast the vector to a scalar by finding its magnintue through np.linalg.norm().