

**Topic:** Programming

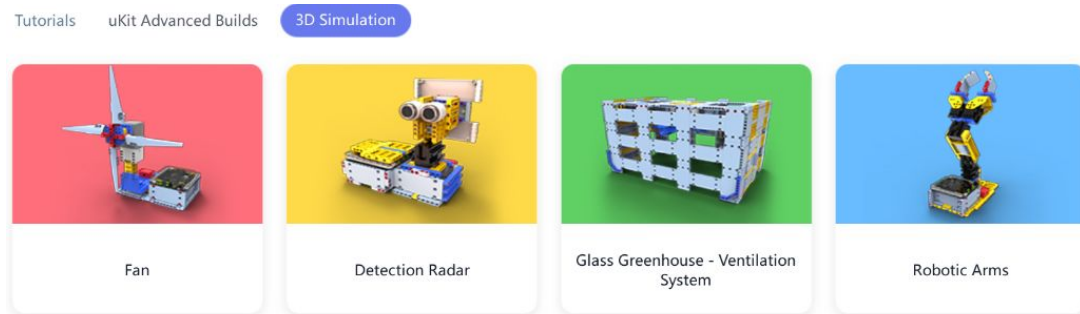
**Short Description:** In this lesson, you will build a program to drive and control a virtual Robotic Arm. Your goal will be to write a code that will operate the Robotic Arm to pick up a ball and place it on the designated circle.

**Steps:**

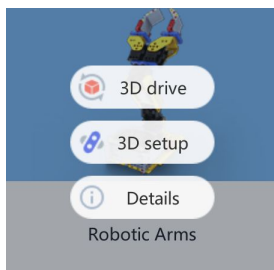
1. Open [uCode](#) in a web browser. Google Chrome is preferred. Click the **3D Lab** tab found at the top of the screen. It might take a minute or so to load depending on your connection.



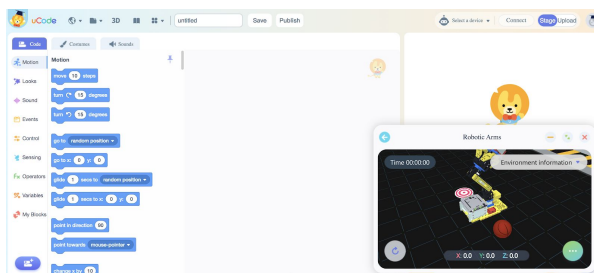
2. Click **3D Simulation** and find the Robotic Arms robot.



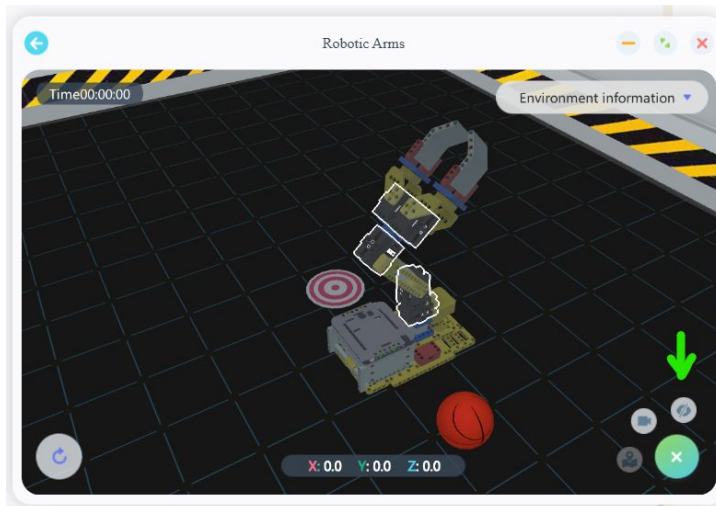
3. Select **3D drive**.



4. Resize the virtual environment window so you can see it and also access the coding space.



- To determine which servos to program, use the eye icon that appears when you click the green button in the virtual environment's lower-right corner. This feature will highlight the moveable components within the build.



- Here are a few sample codes to get you started. Note the change in servo ID.

```

when space key pressed
  forever
    if key q pressed? then
      wheel mode: servo ID- 4 , rotates counterclockwise , speed (0-255) 100
    else
      if key w pressed? then
        wheel mode: servo ID- 4 , rotates clockwise , speed (0-255) 100
      else
        wheel mode: servo ID- 4 , rotates clockwise , speed (0-255) 0

when space key pressed
  forever
    if key e pressed? then
      wheel mode: servo ID- 5 , rotates counterclockwise , speed (0-255) 100
    else
      if key r pressed? then
        wheel mode: servo ID- 5 , rotates clockwise , speed (0-255) 100
      else
        wheel mode: servo ID- 5 , rotates clockwise , speed (0-255) 0
  
```



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