

**Robotics Engineering I**  
Unit 3 Control Structures

## **Tutorial 3.04** do-while loop

**Total Days:** 1

**Prerequisite:** while loops

**Goal:** Identify programming situations where a do-while loop would be useful!

**Learning Objectives/SWBAT:**

- Identify situations where a do-while loop would be appropriate
- Explain the difference between a while and do-while loop

**Agenda Shared on MS Teams/gClassroom:**

**4/23/21 ODD**

**GOAL**

Identify programming situations where a do-while loop would be useful!

**AGENDA**

1. DO NOW: Act first, justify later?
2. LESSON: do-while (vs. while) loops
3. Tutorial 3.04 - do-while Loops
4. EXIT: gQuestion

**TO DO**

Complete up to all current work and have a great weekend :)

AGENDA	QUESTIONS/CFUs/MISUNDERSTANDINGS
<b>OPENER (5 MINS)</b> Mood Meter: Which Spongebob matches your Friday mood?	
<b>INTRO (10 MINS)</b> WATERFALL: Some people say, "It's better to ask forgiveness than permission."	-sometimes better to ask permission (when other ppl are involved, when low stakes, when can't do it without help or input) -sometimes better to ask forgiveness (safety, need

<p>In the chat, explain why that might be true – or give a situation where it would be better to act first and check in later!</p>	<p>to do it once to try, testing the waters: math problem, getting dressed in the morning, recipe testing, number guessing game from last year, debugging!)</p>
<p><b>MINI LESSON (10 MINS)</b>  Diff between while &amp; do-while: asking permission vs asking forgiveness  Do-while useful for:</p> <ul style="list-style-type: none"> <li>- menus</li> <li>- Components that start “on”</li> <li>- Programs that are going to go until</li> </ul>	
<p><b>OPEN WORK TIME</b>  Students revisit a tutorial of their choice to implement a do-while loop</p>	<p><b>Some suggestions of choice (included as “hint” at bottom of project):</b></p> <ul style="list-style-type: none"> <li>- Any project with a menu</li> <li>- Proximity detector that starts with light on a certain color</li> <li>- Quiz show that asks first and checks responses later</li> <li>- A light that’s on UNTIL a button is pressed</li> </ul>
<p><b>EXIT SLIP &amp; LOG OUT (10 MINS)</b>  FIRST CHOOSE Which of the 4 following situations is best suited for implementing a do-while loop:  A nightlight is off until the darkness in a room meets a certain threshold  If an object is too close to a sensor it sets off an alarm  A user is prompted for a password until they enter the correct password  A variable is printed and incremented until it reaches a certain value</p> <p>THEN:</p> <ol style="list-style-type: none"> <li>1. Explain why a do-while loop is appropriate to the situation, AND</li> <li>2. Describe in english or pseudocode how you would structure the do-while loop.</li> </ol> <p>Your exit slip is only complete if you complete all parts: choose, explain, and describe.</p>	
<p><b>TO-DO / HOMEWORK</b>  Complete up to all current work.</p>	