**AP Stats - Introduction to Alice Name:  
Decisions & Functions Challenge**

**Goal:** This assessment is designed to cover use of if/else statements and functions in Alice. It should take 10-15 minutes to complete this challenge.

**Starter World:** Open the *Decisions&Functions.a2w* world from the Alice page of mayomath.weebly.com. You will see that there are already objects and methods written: **world.myFirstMethod**, **penguin.big**, and **normalGuy.big**. Press play and view the current state of the world. Right now, the penguin just crashed into the normalGuy and hugs him.

**Objective:** The objective is for either the penguin or the normalGuy to resize themself and announce their transformation, depending on which one is shorter than the other. Then we want the penguin to hug the normalGuy without them crashing. We will use if/else statements and functions to accomplish this.

The if/else statement here needs to be edited so penguin.big is called when the penguin is shorter than the normalGuy, and normalGuy.big is called otherwise.

In order to prevent the penguin from crashing into the normalGuy once the penguin or normalGuy has become bigger, we need to use a more advanced function to accomplish this.

After the if/else statement, the penguin will move forward and hug the normalGuy, but we need to use another function to make sure the penguin doesn’t crash if his size has changed.

To do this, subtract distance to normalGuy by half of the penguin’s depth. This can be done using the penguin’s functions and math on that function.

Once these methods are written, the world should be good to go. You can resize the penguin and normalGuy for different end results.

**Check:** When you think you are done, call me over so I can check it.

* Proper use of functions
* Proper use of decisions