A Simple Quiz:
Ask User Functions.

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Introduction and Set-up

This tutorial will demonstrate how to create a simple quiz using the three different kinds of “ask user” functions: ask user for a number, ask user for yes or no and ask user for a string.

Let's get started by setting up the world.

Open a new Alice grass world.
Click on Add Objects.
Choose Local Gallery, and click Animals.
Add one Penguin, one Cow, and three Chickens into your world.
Arrange and resize the objects so they are easy to see.
Click done when finished.
Create a new method that we will use later to hold the instructions for the quiz.

Let's start by creating a quiz method.

Click on world in the object tree and create a new method.

Name the new method: quiz.

Click back on my first method.
Now we will add the quiz to my first method.

Make sure you are in my first method.

Click on penguin in the object tree.
Drag the say method into the method editor and type in: *Time for a quiz*
Drag in a second say method and type in: *That is all folks!*

Click on world in the object tree and drag the quiz method in between the two penguin say commands
Now we will start writing the quiz method. To make our code easier to read we will add in comments. Comments make it possible to add in notes about the code like, what it will do, or who wrote the code.

First click on the `world.quiz` method.

To add a comment drag and drop the double slash button into the method
Click on “No comment” in the method editor and type in: **Question 1**

```
// Question #1
```

Click on **penguin** in the object tree, have it say: **How many animals in the world?** and set the duration to 2 seconds.

We need a variable to store the number information we get from the user.

Click on **create new variable**.

Name it **answerNumber**.

Select **Number** beside Type and click **OK**.
Next we will set the answerNumber value to the number the user will give.

Click and drag the variable `answerNumber` into the method and set the value to 1
Click on the **world** in the object tree.
Under the world's details, **functions** find “ask user for a number.”
Click and drag the **ask user for a number** over the 1 and select **other**...
Enter the string: *Enter the number of animals:*
Now we will determine what happens if the answer given is correct or incorrect.

Drag and drop an If/Else block from the bottom of the window and set it to true.

Drage and drop the `answerNumber` variable over the true.

Select “`answerNumber ==““ and use other... to enter in the value 5. 5 is the correct answer to this question.

**Note:** The following is an explanation of all the comparison options

- `a == b`  a is equal to b
- `a != b`  a does not equal b
- `a < b`  a is less than b
- `a > b`  a is greater than b
- `a <= b`  a is less than or equal to b
- `a >= b`  a is greater than or equal to b
For this question when the “If” statement is true, the answer is correct. So we will put our response to the correct answer first.

Click on *penguin* in the object tree.
Under the If:
Drag the *say* method and type: *Correct*
Drag the *wing_flap* method and select 2

When the if statement is false, the answer is incorrect.

Under the Else:
Drag the *say* method and type: *Sorry, that is not correct.*

Play your world to take the one question quiz.
Step 5: Question #2

Now let's make a question that asks the user for a yes or no response.

Drop in a comment and type in: **Question 2**
Click on **penguin** in the object tree, have it say: *Are there more chickens than penguins?* and set the duration to 2 seconds.

We need a variable to store the boolean information we get from the user.

Click on **create new variable**.

Name it **answerBoolean**.

Select **Boolean**

Click **OK**.
Drag and drop the variable `answerBoolean` into the method and set the value to `true`.

In the world's functions, drag and drop the “ask user for yes or no” over the true. Type in: **Click on Yes or No**.
Now we will add in our responses to the answer in another If/Else statement.

Drag and drop an If/Else statement and select **true**.

Drag and drop the variable `answerBoolean` over the true.

The If question accepts just the variable because `answerBoolean` is a boolean type. To make the question explicit we will use the boolean logic functions.

Click on `answerBoolean` in the If block

Select logic, `answerBoolean ==`, **true**
Now complete the question #2 by adding in the methods as shown below:

Play your world to take the two question quiz.
Step 6: Question #3

For our final question we will ask the user to enter a string.

Drop in a comment and type in: **Question 3**

Click on **penguin** in the object tree, have it say: **What building are we in?** and set the duration to 2 seconds.

Note: A string is a set of letters or characters. A space is considered a character so be careful if you have a space at the end of your word or sentence.

We need a variable to store the string information we get from the user.

Click on **create new variable**.

Name it **answerString**.

Select **Other...** and **String**

Click **OK**.
Drag and drop the variable `answerString` into the method and set the value to `default string`.

In the world's functions, drag and drop the ask user for a string over the default string. Type in: `Enter acronym`. 
Now we will add in our responses to the answer in another If/Else statement.

Drag and drop an If/Else statement and select true.

Drag and drop the variable `answerString` over the true. Select `answerString==` then use other... to type in: `LSRC`

But wait, what if the user enters in “lsrc”? Alice is case sensitive so we need to allow for the user to enter LSRC or lsrc as the correct answer.

Click on `world` in the object tree and find the boolean logic functions

Drag and drop either `a` or `b`, or both onto the If statement and select true
Now drag the variable answerString onto the true
Choose answerString==   and other...

Type in: lsrC
Click on penguin in the object tree and add in the responses for when the answer is correct or incorrect as shown below.

Now play your world and take the quiz.
Part 2: Forcing the Answer

In Question 1, if the user mistypes the answer, we want the program to ask the user for the answer again until it is correct. Rewrite question 1 to add a while loop and force the user into the loop with a wrong value to start with.