

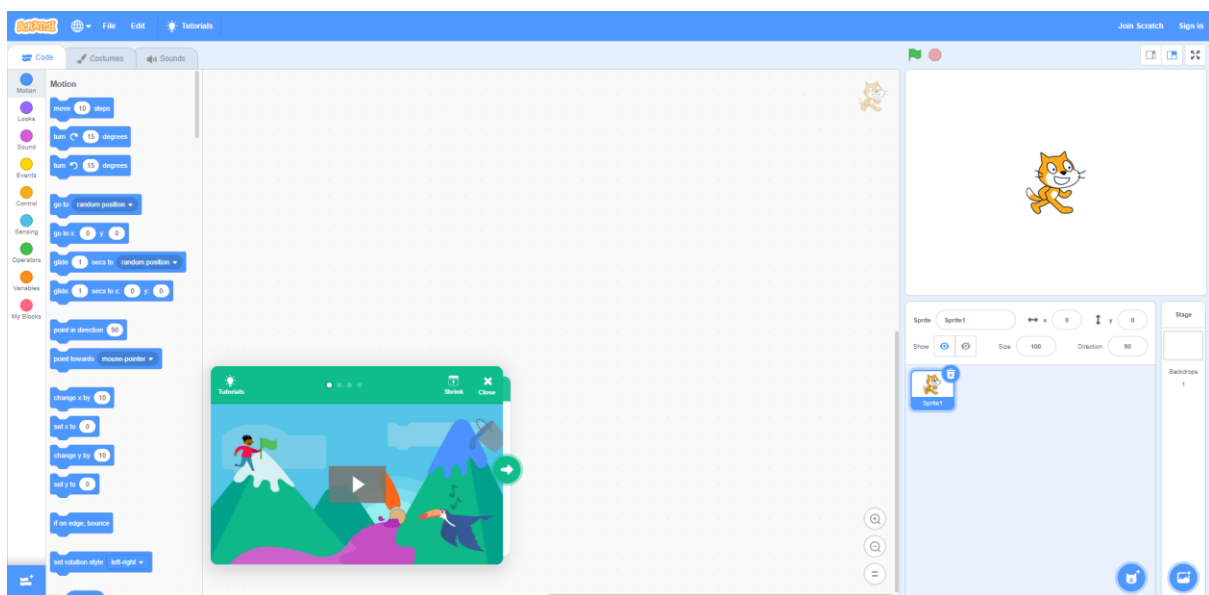
## Translator

This project will provide you in in depth understanding of how to use the Translate & Text to Speech extensions. In this project we will code a “Translator” where a sprite will translate anything you type into a language of your choice, and read it back to you.

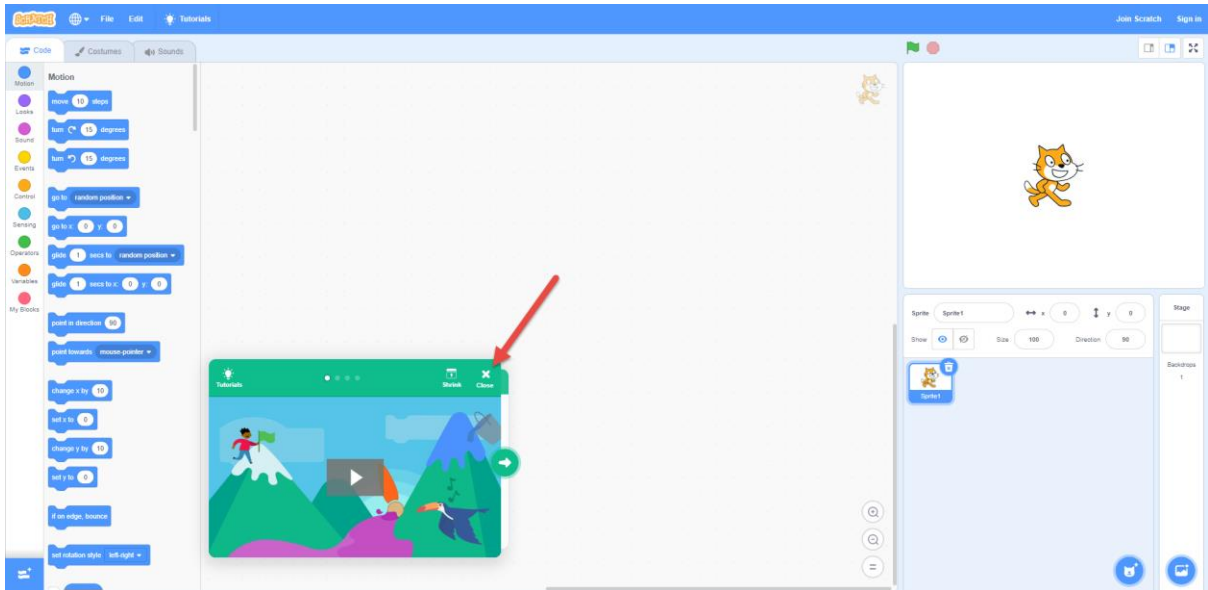
If you want to save your work you will have to join scratch, which is free. Just press the ‘join scratch’ tab in the top right and sign up. This is not necessary however to use the program.

**Step 1:** Go to <https://scratch.mit.edu/projects/editor/?tutorial=getStarted>

You will see this screen



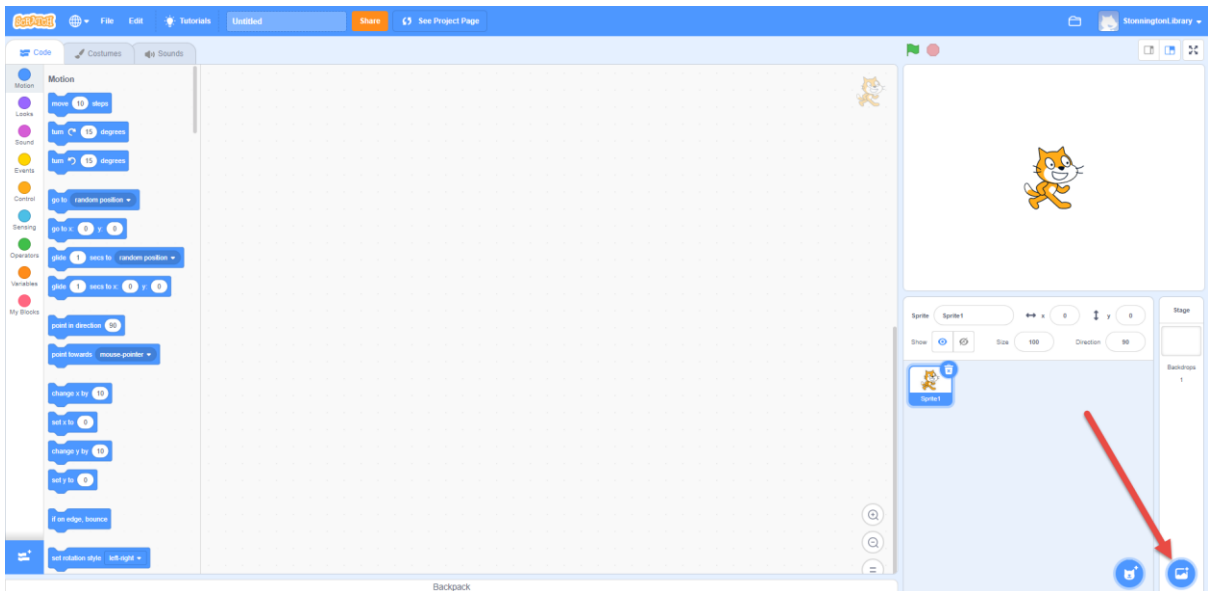
**Step 2:** Press the X on the green **Tutorials Box**



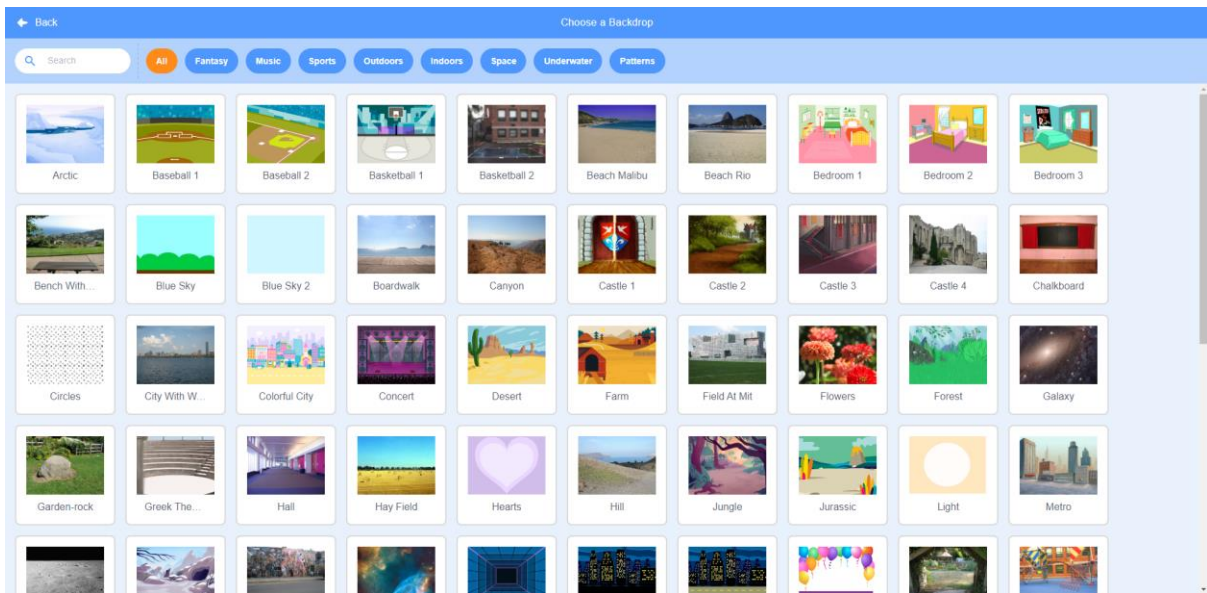
**Step 3:** Our project is currently a boring blank stage, let's start by choosing a **background**. To choose



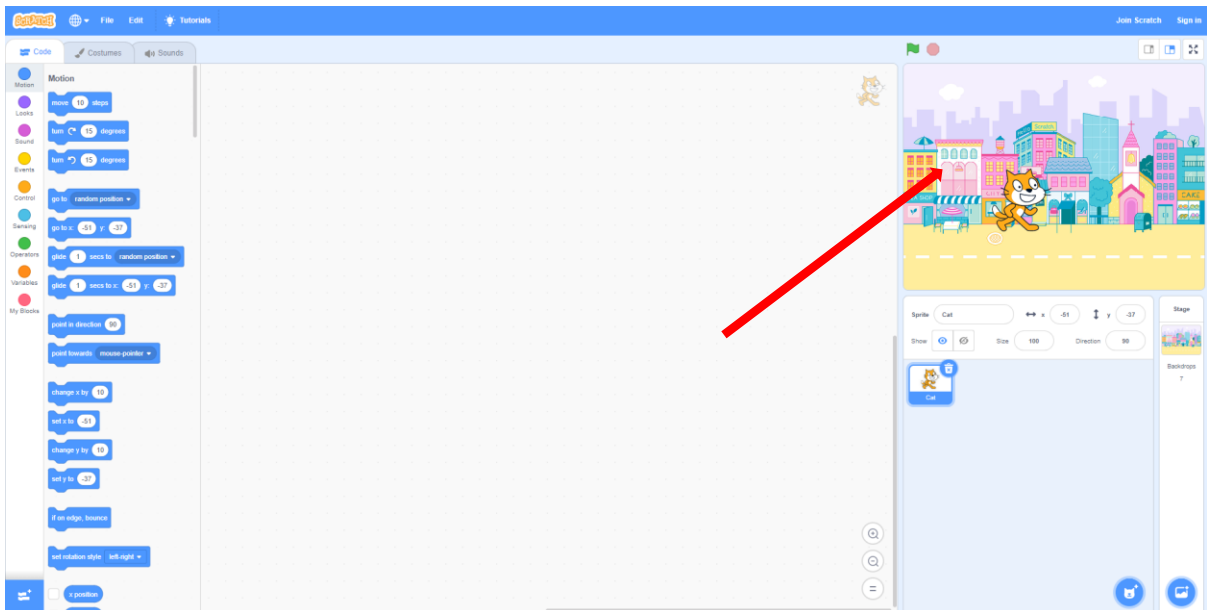
a **background** press the **button** on the bottom right corner of the screen, under where it says **stage**.



This will bring up this screen where you can choose the **background** you like by left clicking on it.



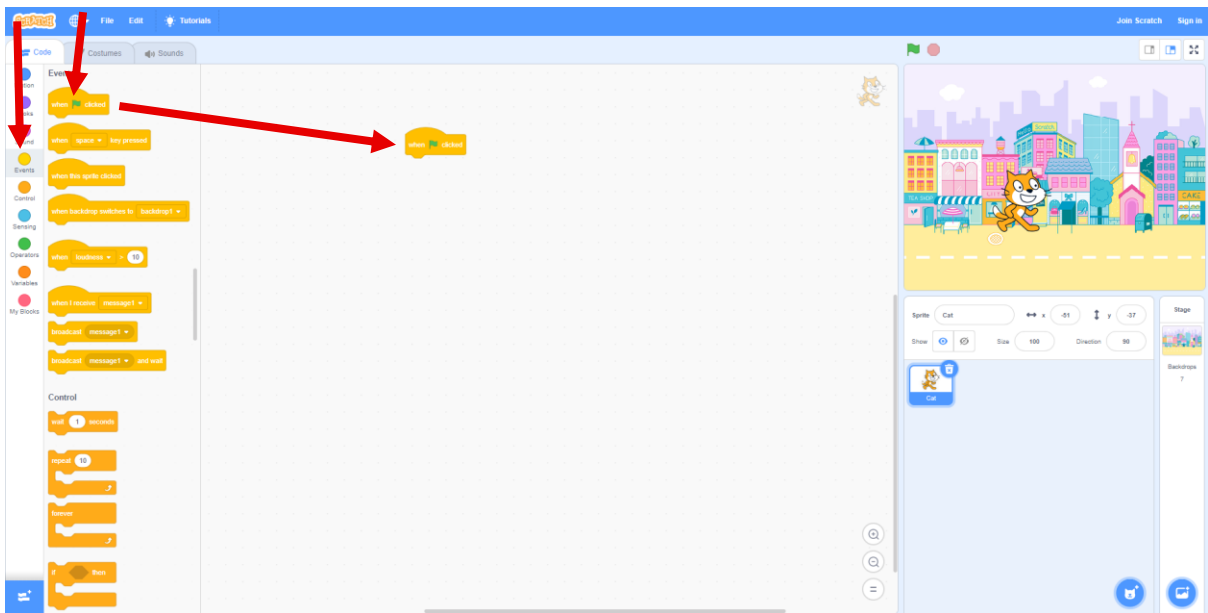
You will see the **background** you choose appear in the top right screen. I chose the “Colorful City”.




**Step 4:** We are now going to start **coding** our translator.

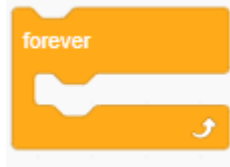


Click on the **Events Tab** on the left hand side of the screen and drag and drop a **block** onto the **workspace**.



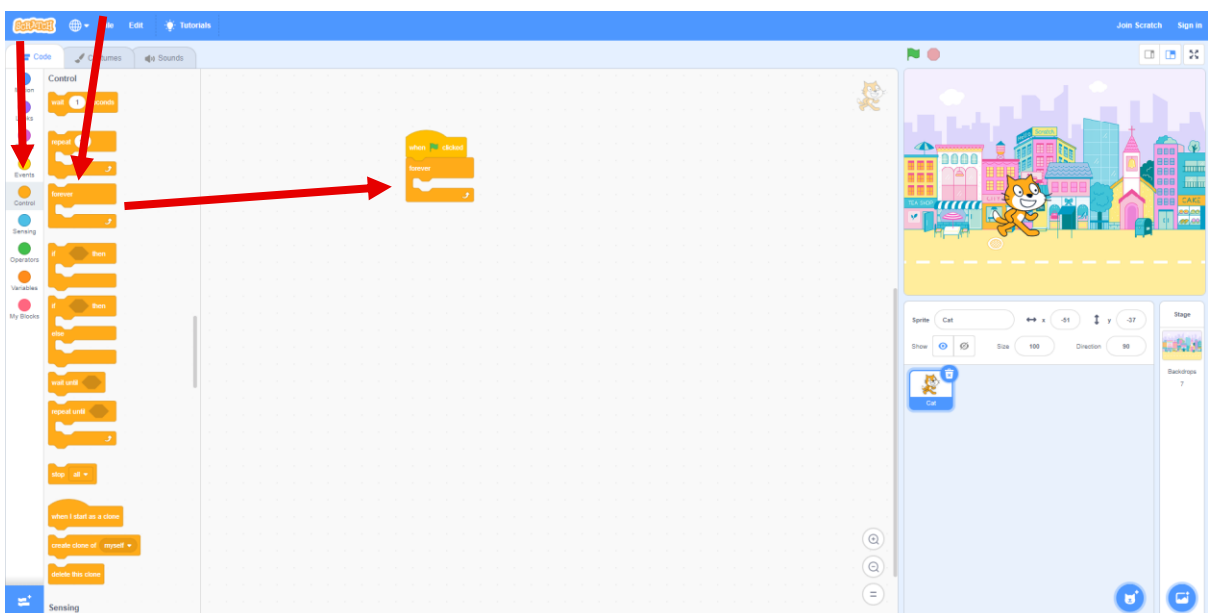
This **block** will make the **code** for our **sprite** start when we press the  **button**. However, at the moment there is nothing for our **sprite** to do.


**Step 5:** We are now going to add in **code** to make our **sprite** translate. Click on the **Control Tab** on



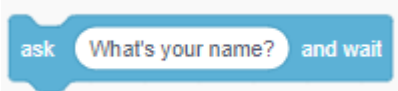

the left hand side of the screen, and drag and drop a **block** onto the **workspace**

under the  **block** so they join.

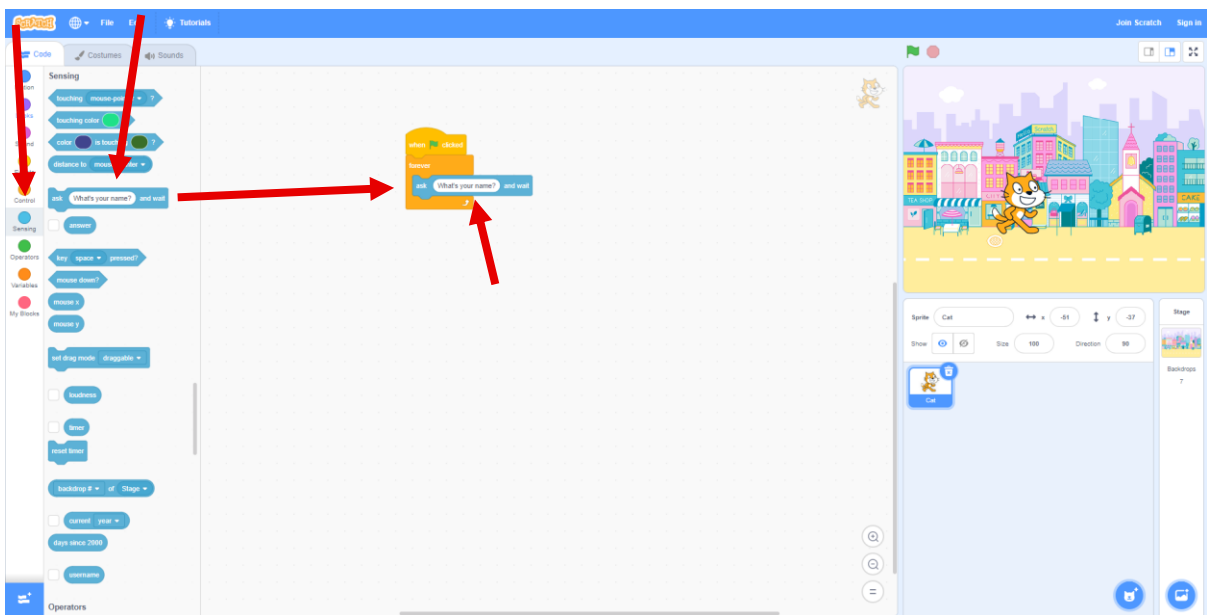


The **block** we have just added will make whatever **blocks** we put inside, **loop** forever, or until we press the  **button** to make the **code** stop.

**Step 6:** Now we are going to add in the **block** which will make our **sprite** ask us what we would like it to say and also for a box to appear where we can type in our word. Click on the **Sensing Tab** on the

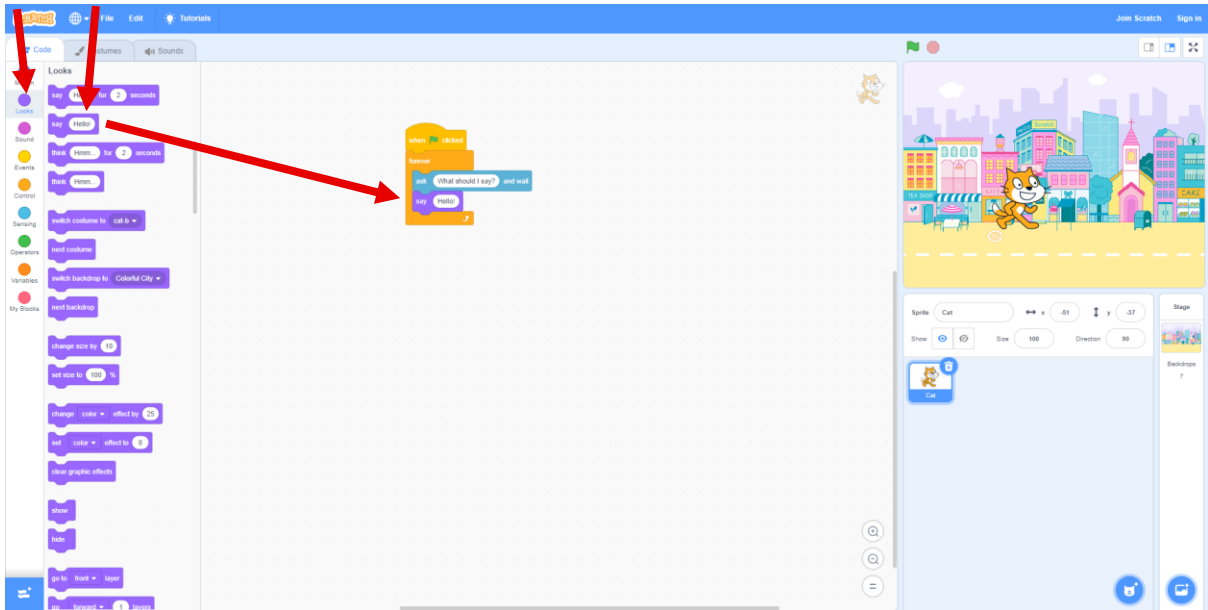
left hand side of the screen and drag and drop a  **block** inside the  **block**.

Now where it says 'What's your name?' we can click in that white box and change text to 'What should I say?'



**Step 7:** Now we are going to add in the translate part. First we need our **sprite** to show us what the translated word looks like. To do this click on the **Looks Tab** on the left hand side of the screen, click

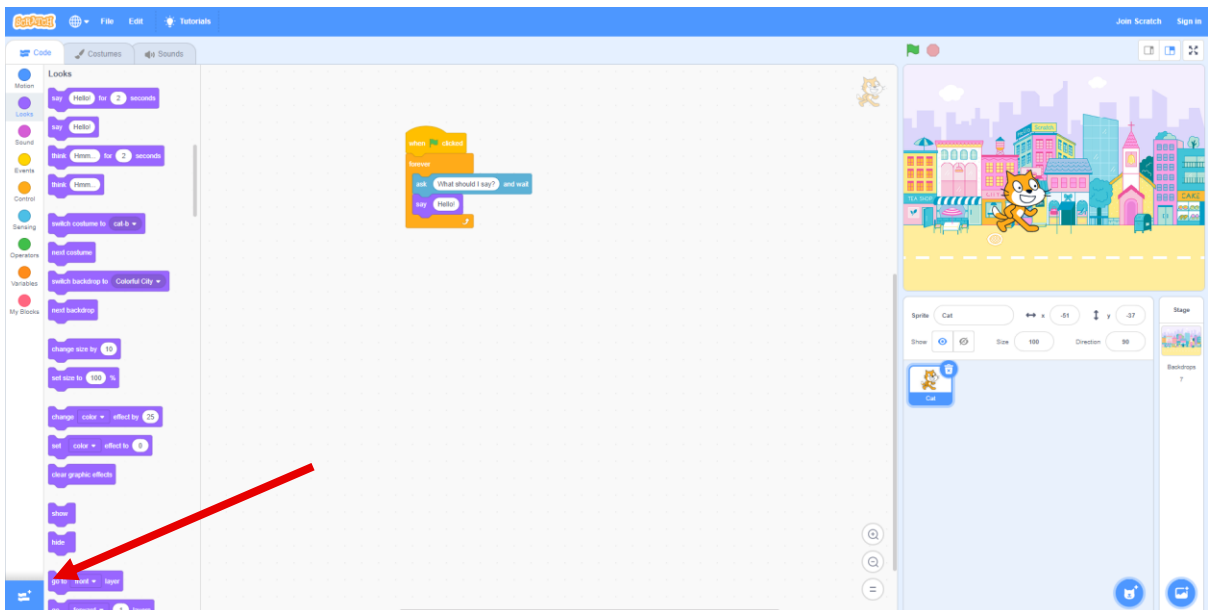
and drag a  **block** onto the **workspace** underneath the  **block**.

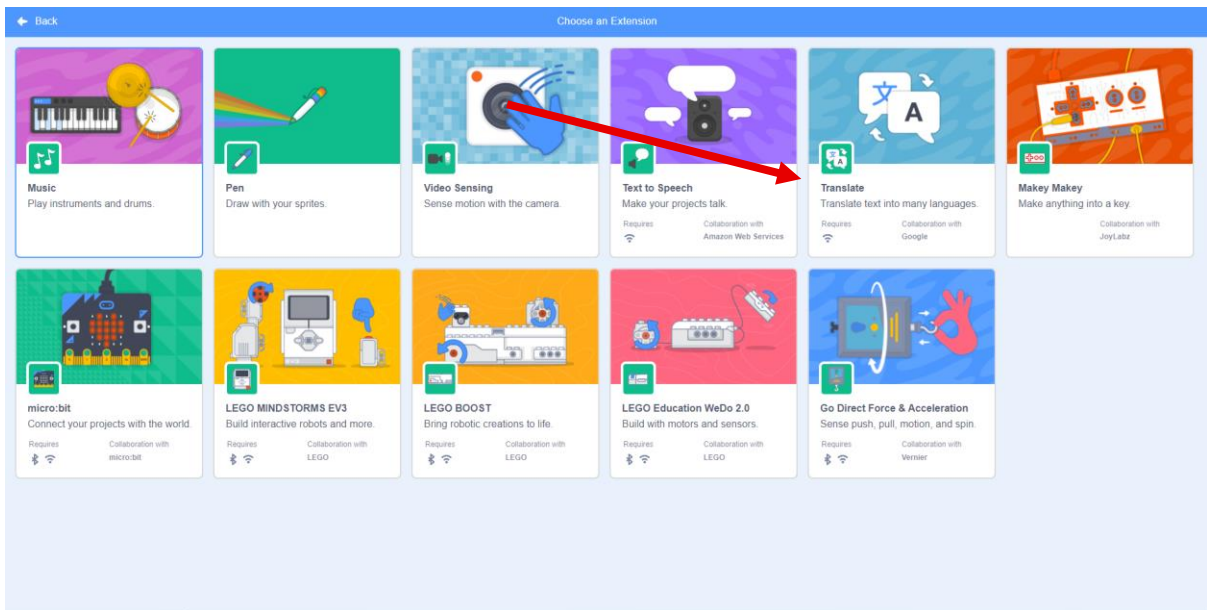


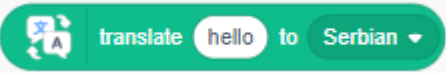
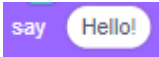
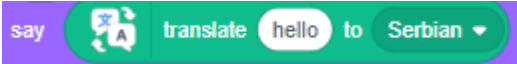
**Step 8:** Now we will add in the **translate block**, which is an **extension** built in to Scratch. To access



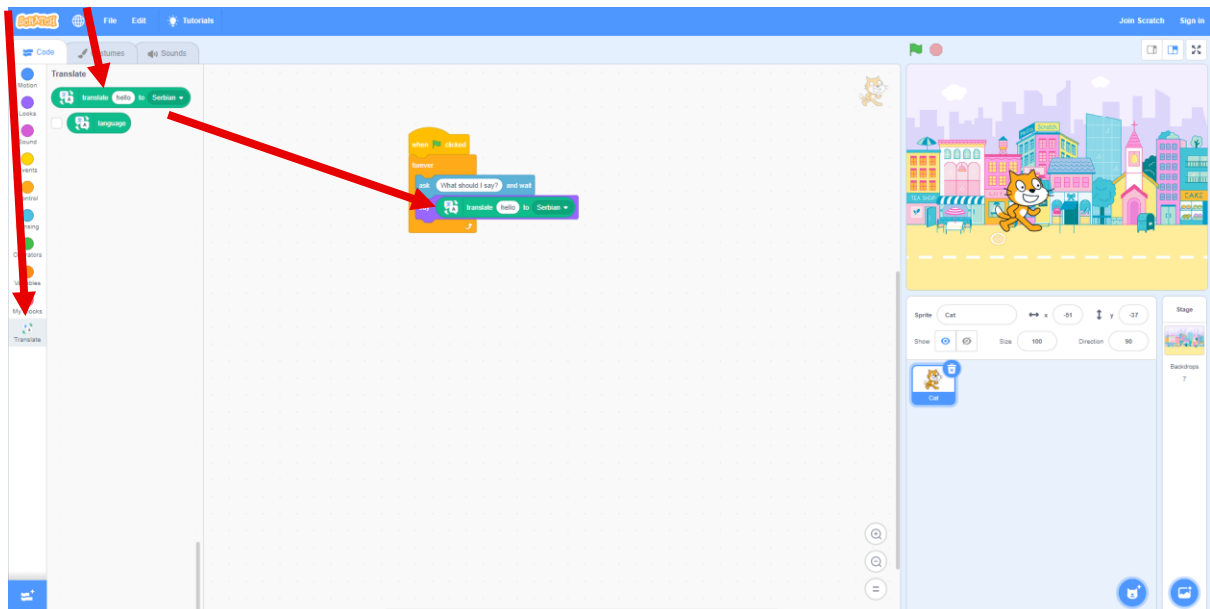
this **extension** click on the **add extension** button and select **Translate**.





You will now see a new **Translate Tab** appear on the left hand side of screen, click on this and drop the  **block** inside the  **block**. It should drop neatly inside the oval “hello” & should now look like this 

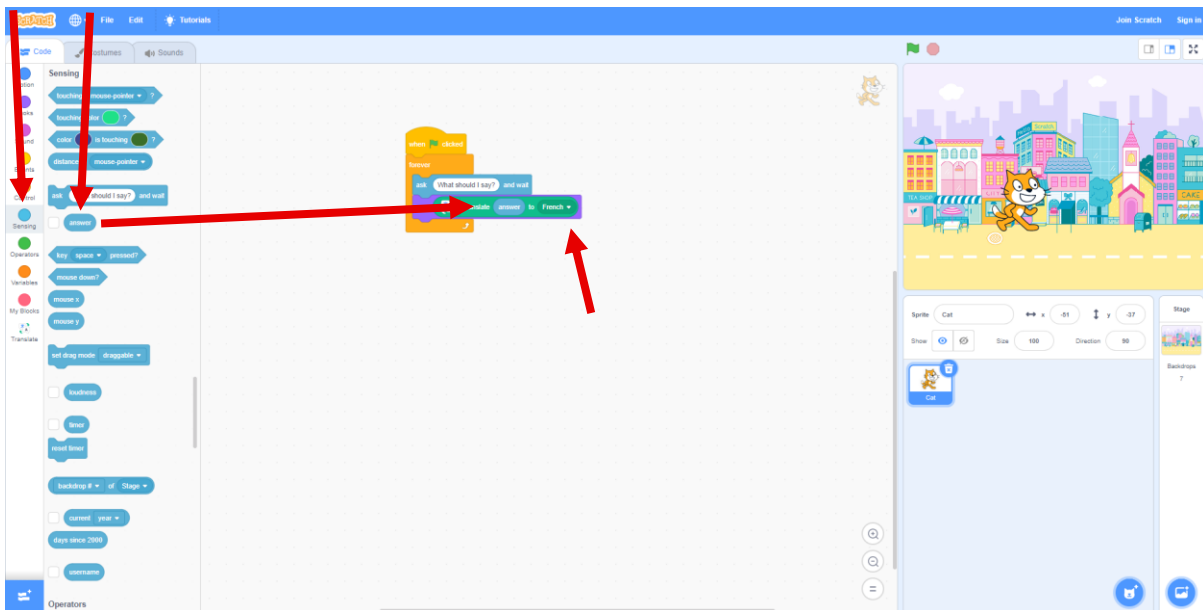
Note that while mine says Serbian as the language, yours might have a different language. That’s ok, we can go in & change that later.




Now, we don’t want our **sprite** to translate the word “hello” but to give us the translation of the word we type into the box. So to do this click on the **Sensing Tab** on the left hand side of the screen

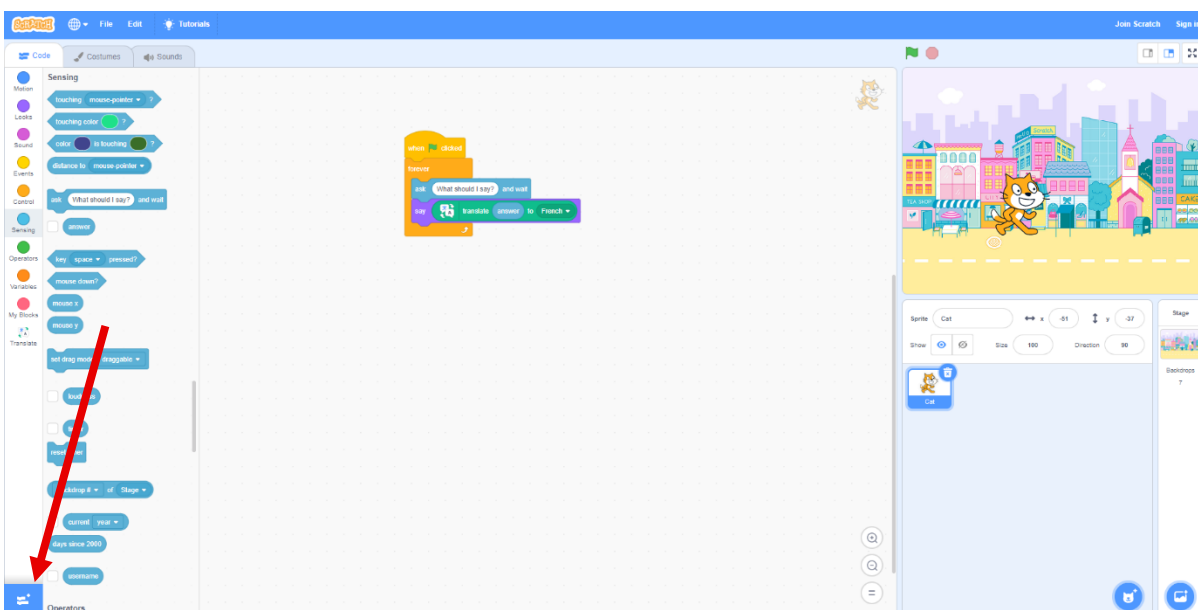
and drag and drop a **answer** block inside the **translate** block. It should drop neatly inside the oval "hello" and should now look like this

We can now choose the language we would like our **sprite** to translate, by clicking on the language (mine is Serbian) and choose a language from the **drop down menu**. I'm going to select French.

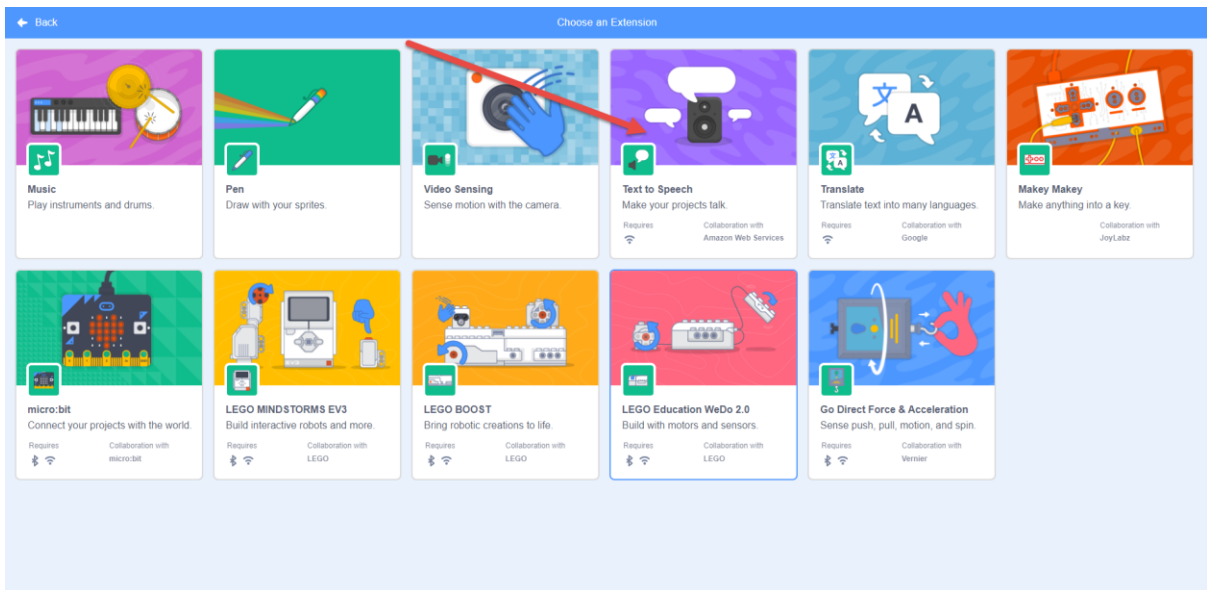


**Step 9:** The translation is now done, but what if we would like to hear the translation as well as read and give our **sprite** a voice. We can do that by adding another extension. Click on the add **extension**

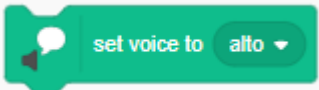
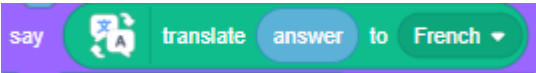
 **button** and select **Text to Speech**.

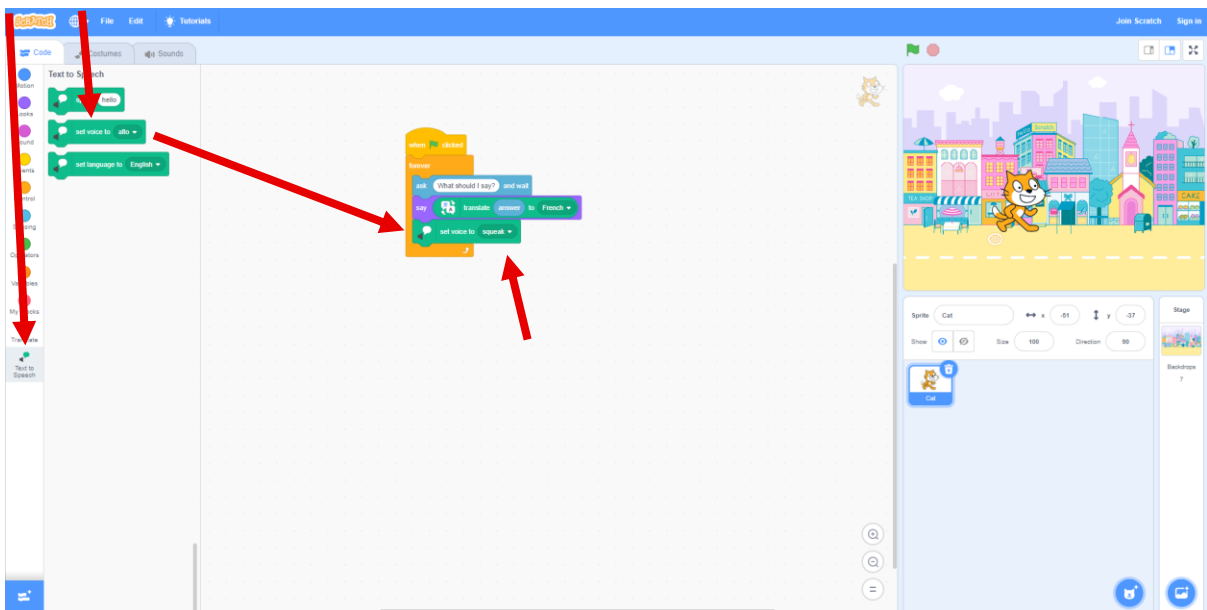




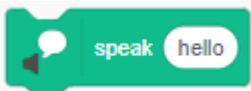
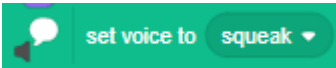


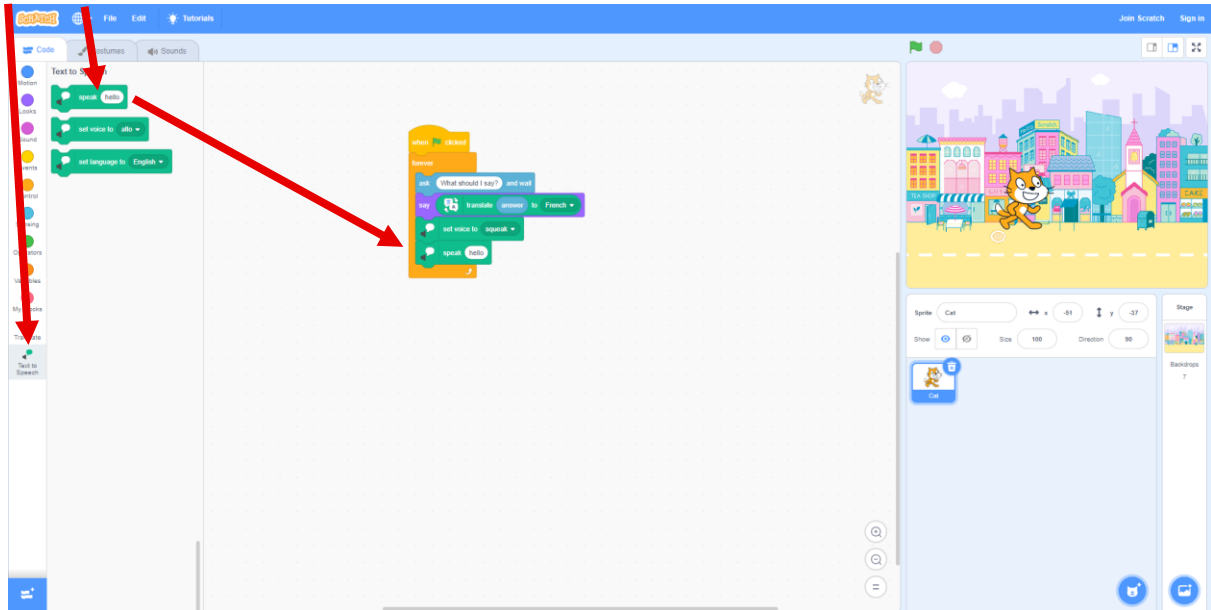
You will now see a new **Text To Speech Tab** appear on the left hand side of screen, click on this and

drop the  block underneath the  block. This will allow us to change the way the voice sounds. Click on 'alto' and choose a voice from the **drop down menu**. I'm going to select "squeak."

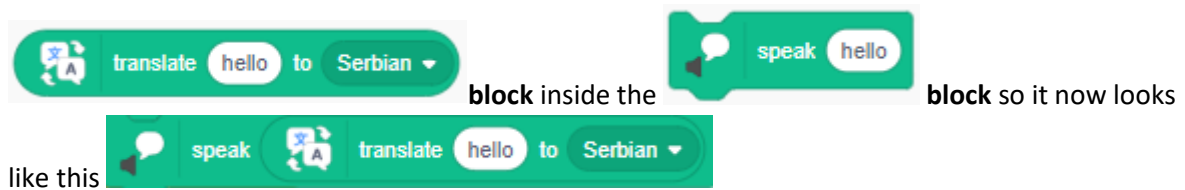


**Step 10:** Now again click **Text to Speech Tab** on the left hand side of the screen, and this time drop

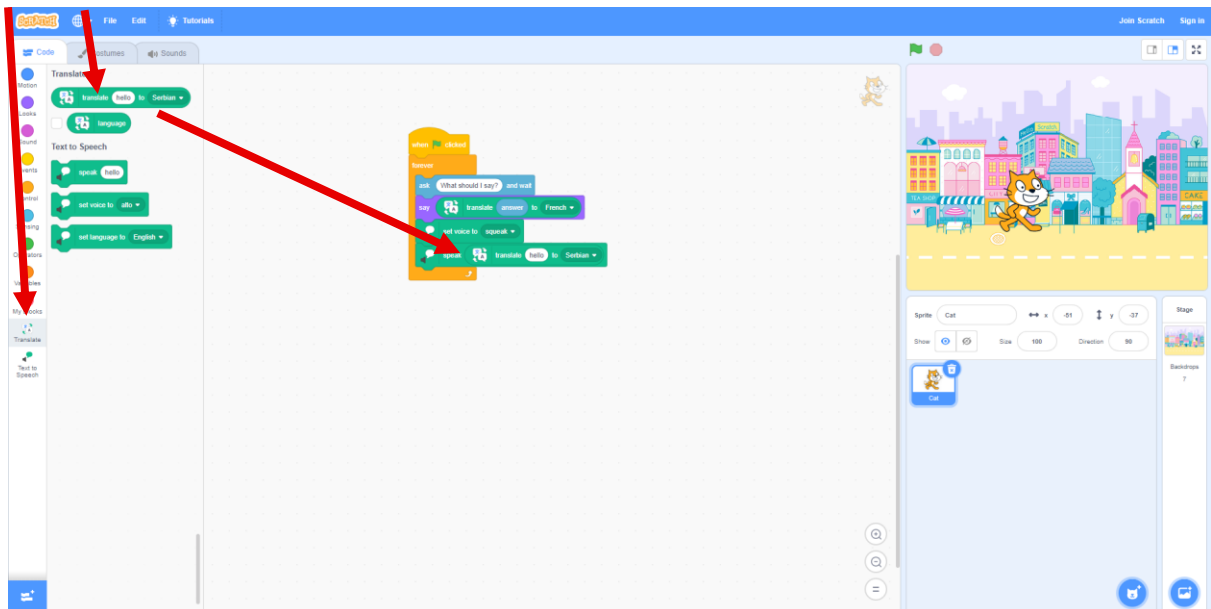
the  block underneath the  block.



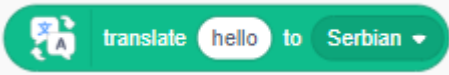

Now, we don't want our **sprite** to say the word "hello" but to say the translation of the word we type into the box. To do that we need to add a **translate block**, like we did for the written translation. Click on the **Translate Tab** on left of screen and drop the



Again note that while mine says Serbian as the language, yours will have a different language. That's ok, we can go in & change this as well.

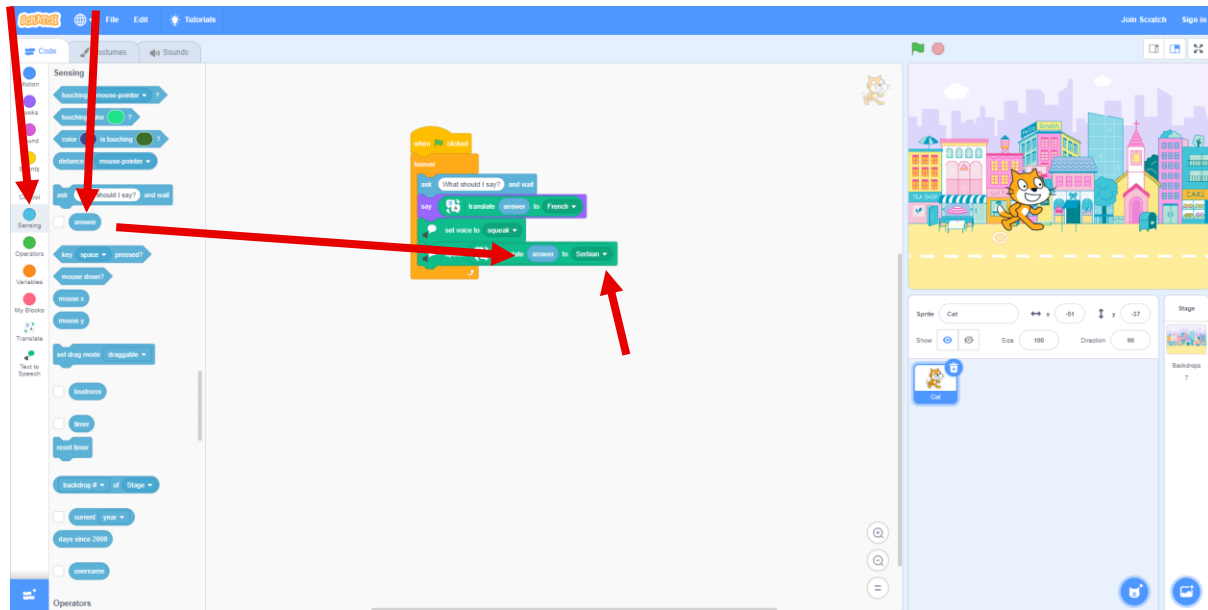


Now it is still saying hello, so we need to change that so our **sprite** will say the correct translation. To do this click on the **Sensing Tab** on the left hand side of the screen and drag and drop a **answer**



**block** inside the  **block**. It should drop neatly inside the oval “hello” & should now look like this 

We can again choose the language we would like our **sprite** to translate, by clicking on language (mine is Serbian) and choose a language. I’m going to select French so it matches up with the written translation.

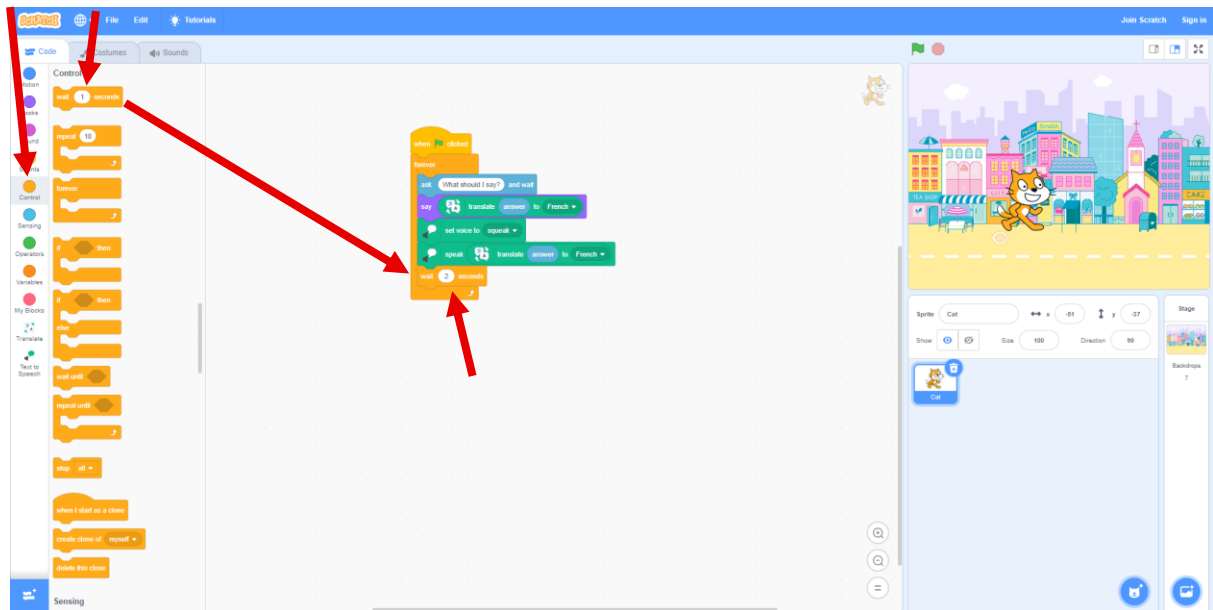
Please note if you choose a language that uses characters (like Arabic, Japanese etc.) the translator is unable to speak this. So the translation will appear on screen for you to read, but will not be able to speak it.




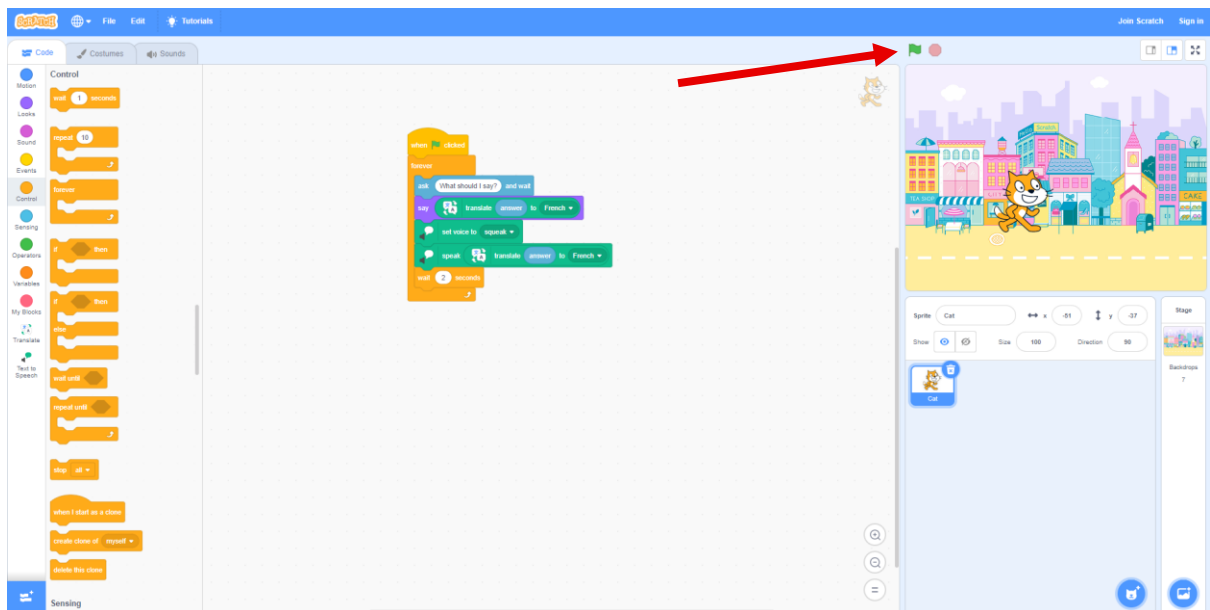
**Step 11:** Now all we need to add is a wait **block**, so it gives us time to read the translation before the program starts over again. To do this click on the **Control Tab** on the left hand side and drag a


 **block** underneath the 


**block**. We can change the number from “1 to 2”, to give us enough time to read translation.



**Step 12:** To start the Translator click on the  button on the top right of the screen



This will make the **sprite** ask you “What should I say?” and a box will appear where you can type in a word. Try something like dog” or cat’ and hit enter. The **sprite** will then translate for you to read and hear. It will then go back and ask again “What should I say?” This will keep repeating until you stop running the program. To make the program stop press the  button in the top right of the screen.

You can press the  button in the top right corner to enter **full screen** to see your Translator in all its glory!