



An introduction to variables

Code Playground



An introduction to variables

A variable is like a container that holds information.

Think of it as a place where your computer stores data that can change, like keeping score in a game.

Today, you'll create a program to keep track of heads and tails in a coin toss.

To get started go to scratch.mit.edu and click **'Create'** a new project.



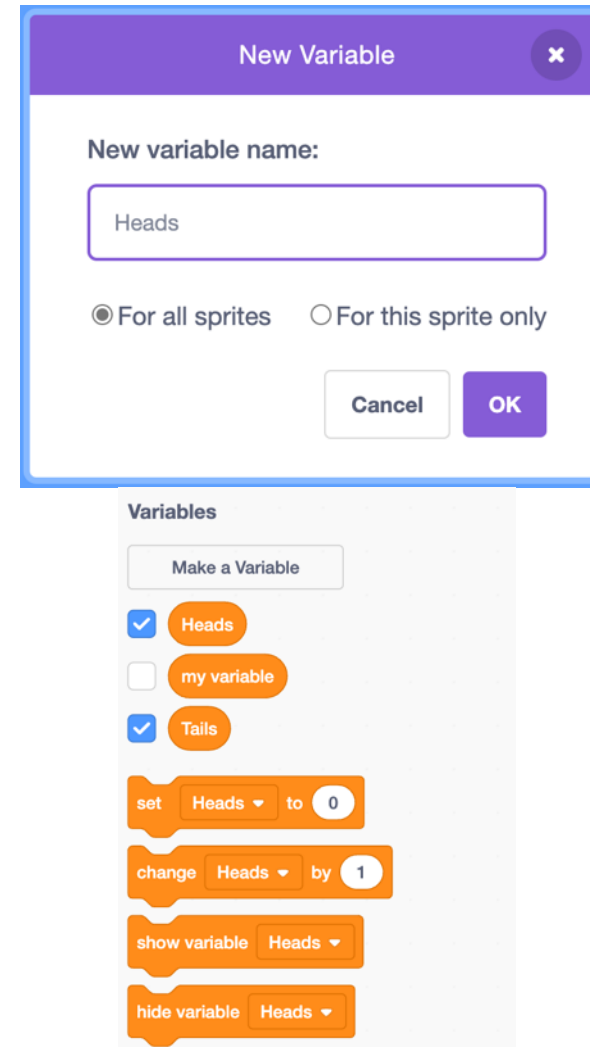
Step 1 – Create your variables

Firstly you'll need to create variables for **'Heads'** and **'Tails'**.

1. Go to the **'Variables'** tab on the left
2. Click **'Make a Variable'** and name it **'Heads'**, click **'OK'** to create
3. Make a second variable and name it **'Tails'**, click **'OK'** to create.

Now you've created two variables to keep track of the number of heads and tails.

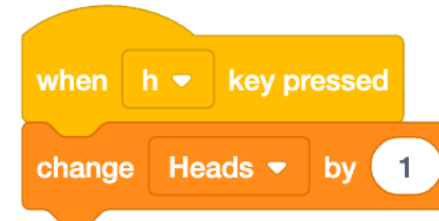
These variables will be used in the rest of the project.



Step 2 - Add actions to increase heads score

1. Drag in **'when [space] key pressed'** from the **'Events'** tab
2. Change **'when Space key pressed'** to **'when h key pressed'**
3. Drag in **'change [Heads] by 1'** from the **'Variables'** tab underneath.

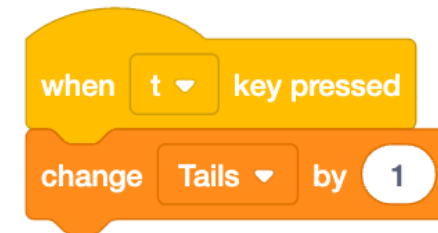
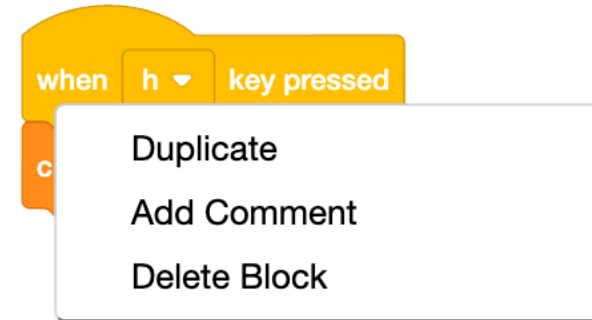
Each time you press the h key, Scratch will increase the count for heads.



Step 3 - Add tails score action

1. Duplicate the heads blocks to create the **'Tails'** action blocks
2. Change **'when h key pressed'** to **'when t key pressed'**
3. Change **'change Heads by 1'** to **'change Tails by 1'**.

You now have your two score controls for your heads and tails game. Press the keys to increase the count of heads and tails. Watch the numbers go up.

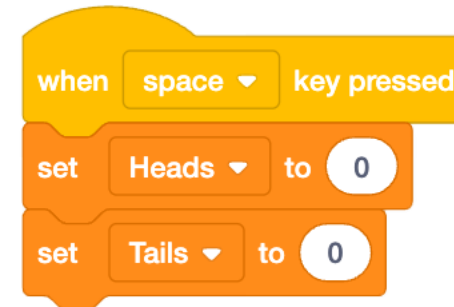
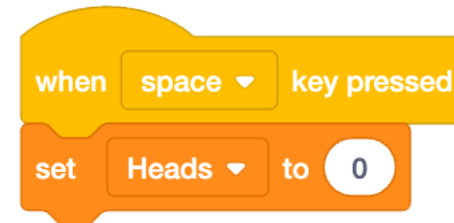


Step 4 - Test your variables

To create a reset you'll need one further block to set the scores back to 0.

1. Drag a new **'when [space] key pressed'** block
2. Drag a **'set 'Heads' to 0'** underneath
3. Drag another of the same block, but this time change **'Heads'** to **'Tails'**.

Now when you press **'space'** both scores will reset to 0.



Challenge - Track your time

1. Create a new variable called **'Timer'**
2. Try adding a block that counts down from 60 seconds.

Now you have a timer to challenge yourself, see how many heads and tails you can get in one minute.



An introduction to variables

Notes