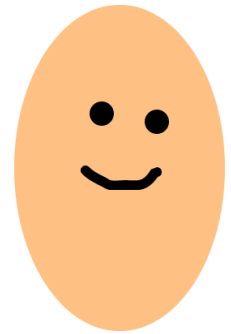




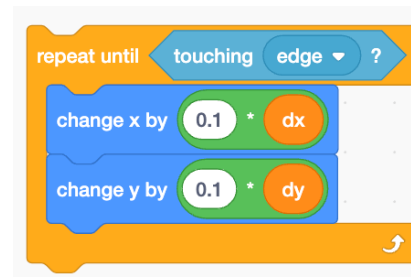
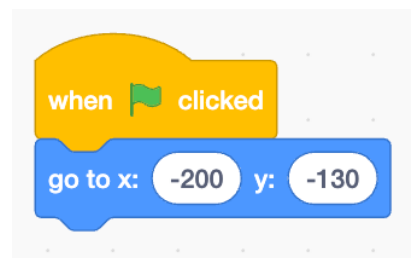
Jumping Bean

Make a sprite jump.



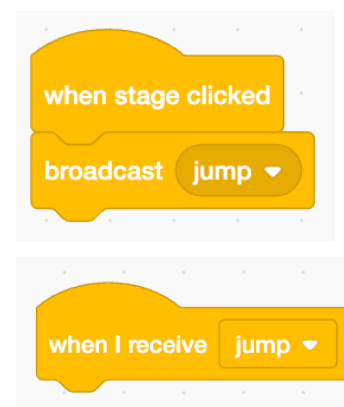
Register/login at <https://scratch.mit.edu>

- 1) Make a new '**bean**' sprite with the drawing tool.
- 2) Make it smaller by adjusting its **Size**.
- 3) Drag the bean to a starting point at the bottom lefthand corner. Add code that moves it to this position when you click the **green flag**.
- 4) Create two variables **dx** and **dy** and turn them into **sliders**. These are *differences* to be added to **x** and **y**.
- 5) Add code to **change** x and y **repeatedly** until it **touches the edge**. The values of **dx** & **dy** have to be scaled down using multiply.



*Try it. Click on the code to run it with **dx** & **dy** inputs.
How do you sense a click on the background?*

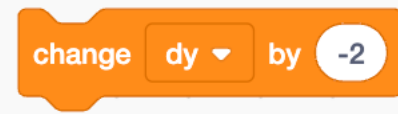
- 6) Select the stage and add code that broadcasts a message when it's clicked.
- 7) Add code to the bean that runs when it gets the message.



*Press the **flag** and click on the background*

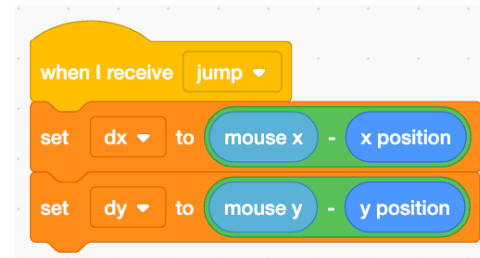
It moves in a straight line. Now add gravity!

8) Add gravity by subtracting a small value from **dy** every time it goes round the loop.

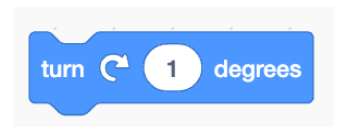


Use the mouse position to input the direction and speed of the jump, instead of the sliders.

9) Insert code after the **receive message** to **set dx** and **dy** to the position of the mouse relative to the bean.



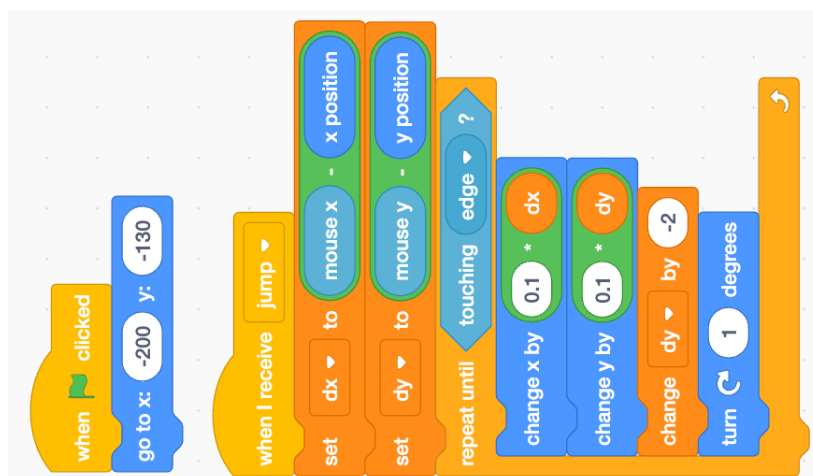
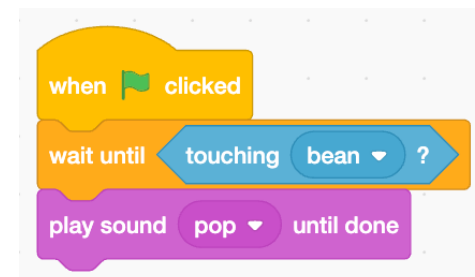
10) Make the bean tumble in mid-air by **turning** it 1 degree each time it moves.



Add a target for the bean to hit.

11) Choose a new sprite with a good sound effect.

12) Add code to the new sprite that **waits** until it **touches** the bean and then **plays** a sound.



The complete code for the bean is shown here.

Can you improve the gameplay?

Save your code with a good name. **File > Save now**