

L1U8.3

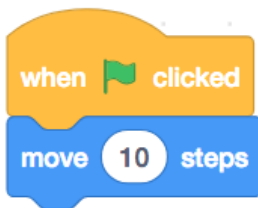
Exploring Forever and If-Then Worksheet



In this activity, we will explore the **forever** and **if-then** blocks. Please follow the instructions and answer the questions in the boxes with words or drawings of blocks.

We will attempt to make the Scratch cat run back-and-forth across the screen forever as shown in class when we click the green flag.

1. Go to Scratch and create a new project.
2. Make the block below.



3. Try clicking the green flag a few times. Note what happens.

4. We want the cat to continuously move to the right and eventually come back, but clicking so many times is tiring... Try to make the block below. (Hint: The **forever** block is in the **Control** drawer)



5. What happens when you click the green flag? What happens when you click and drag the cat away from the edge of the screen?

Sample answer: The cat moves to the right side of the screen and stops. If I drag the cat away from the edge, it will continue moving to the right side of the screen and stop at the edge.

6. Based on what you saw just now, what do you think the **forever** block does?

Sample answer: I think the “forever” block makes the cat do what is inside it constantly.

7. We want the cat to turn when it arrives at the edge. Try to make the block below.



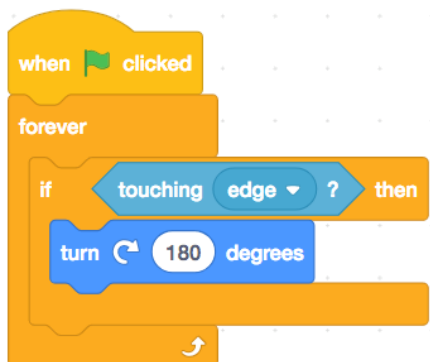
8. Drag the cat to the middle of the screen and then click the green flag. Note what happens. **Sample answer:** Nothing happen as it is not on the edge.

9. Drag the cat to the edge of the screen and click the green flag again. Note what happens. **Sample answer:** The cat will turn 180 degrees when it is on the edge.

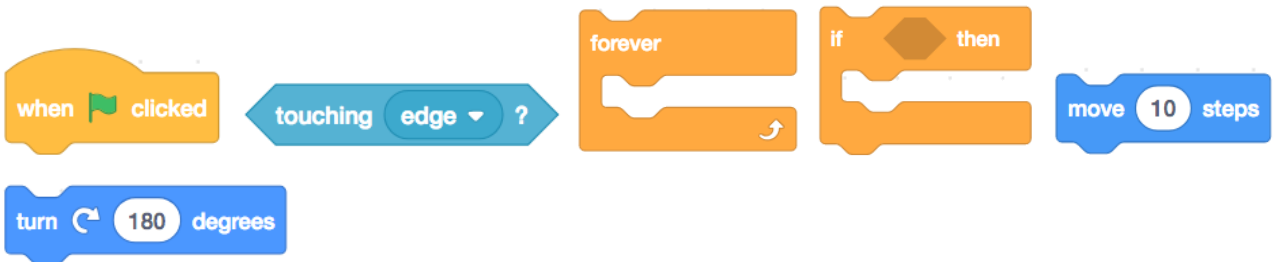
10. Based on what you saw just now, what do you think the **if-then** block does?

Sample answer: It makes the cat do what is inside it when the cat is touching the edge.

11. We want the cat to turn so that it faces the other way every time it reaches the edge because this allows the cat to move away from the edge by itself. Try adding the **forever** block to make the block below.



12. Try clicking the green flag when the cat is in the middle of the screen and at the edge of the screen. Note what happens. **Sample answer: Nothing happen when the cat is in the middle of the screen but it flips 180 degrees when it is on the edge.**
13. We can almost reach our goal of making the cat run back-and-forth across the screen! Use a combination of the blocks we just learnt to make it happen (listed below). Draw out your code in the box below.



Sample answer:

