

## Lesson 8: Use the IF and WHILE Control Statements

### Try It: Practice Activities

#### Instructions:

Open the "WhiteRabbitProject" project you saved in the previous lesson. You will use this project for all of the practice activities listed below. Download this lesson's project file if you did not complete the previous lesson's Try It activities.

1. Create an IF statement process flow.
  1. Create an IF statement process flow diagram for the following animation: IF the baby bunny collides with the hedge, the baby bunny says "Oops!" Otherwise, the baby bunny takes another hop forward.
2. Program an IF statement.
  1. Program an IF statement so the baby bunny says "Oops!" and turns to face the White Rabbit if it collides with the hedge. If it doesn't collide with the hedge, it turns to face the White Rabbit without saying "Oops!"
  2. Save the project.
3. Create a WHILE statement process flow.
  1. Create a WHILE statement process flow diagram for the following scenario: While the bunny is not colliding with the White Rabbit, the hops forward repeatedly. If the bunny collides with the White Rabbit, he stops and says "Excuse me!"
4. Program a WHILE control statement.
  1. Use a WHILE statement to animate the bunny hopping towards the White Rabbit. If he collides with the White Rabbit, the bunny stops hopping and says "Excuse me!"
  2. Save the project.

#### Optional Activities

Complete the following optional practice activities below to continue practicing the concepts you learned in this lesson.

1. Create a new project using the wonderland template. Set up an initial scene with a cheshire cat and a teacup. Program the following motions:
  1. Resize the teacup so it is larger than the cheshire cat.
  2. Using an IF control statement, program the cheshire cat to disappear if it collides with the teacup. If it does not collide with the teacup, it continues to move forward.
  3. Save the project.
2. Create a new project using the wonderland template. Set up an initial scene with a queen object and a playing card object.
  1. Using a WHILE statement, program the playing card to fall backwards and lie on the ground if the queen collides with it. If the queen does not collide with the playing card, the playing card stands still.
  2. Save the project.
3. Create a new project using the desert template. Add a desert tortoise and several prop objects to the scene.

1. Program the turtle to bump into a prop object. Use the `getDepth` function and math calculations if necessary to program precise movements.
2. Program an IF statement that has the tortoise roll over onto his shell and say "Help!" while simultaneously wiggling his legs if the tortoise is facing the prop object. If the tortoise is not facing the prop object, he continues to move forward. Hint: Select the tortoise instance and drag the `isFacing` function onto the true condition.
3. Save the project.