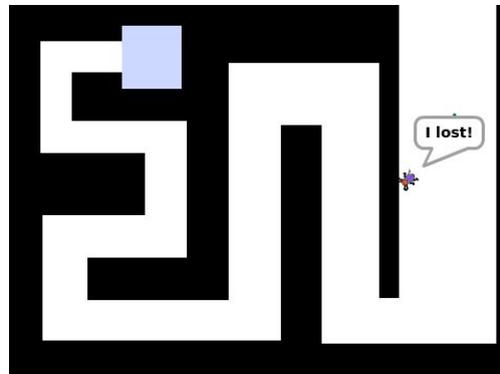


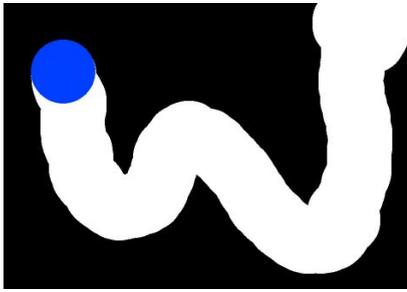


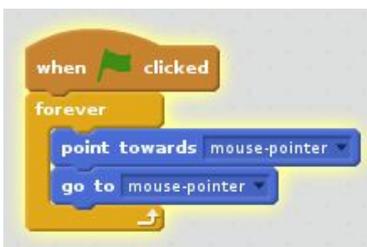
**LEARN PROGRAMMING  
VIDEO GAME EDITION**

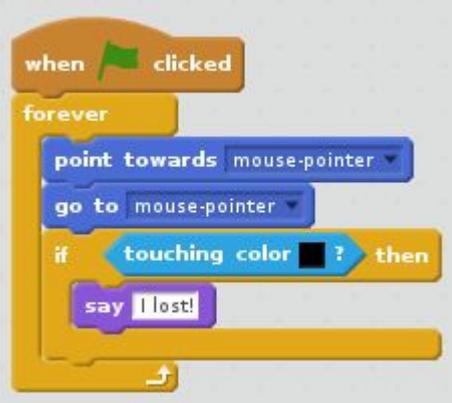
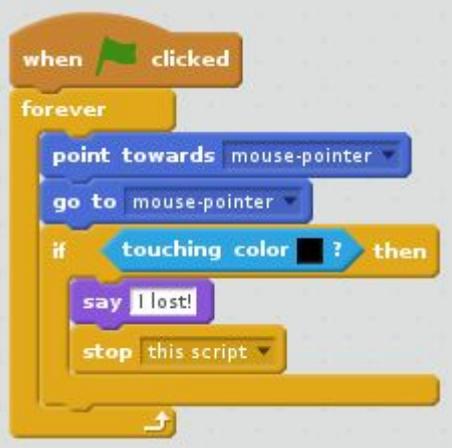
**MAZE**

# Maze Game



Step	Challenge - Create the maze!	Hints	Done
1	Delete the cat sprite by clicking on the scissors and then on the cat.	 scissors icon is at the top of the window	<input type="checkbox"/>
2	Now, we need to create the maze. In order to do so, we need to edit the backdrop by clicking on the backdrop menu at the top just between the "Scripts" and "Sounds" tab		<input type="checkbox"/>
3	Paint the entire background black by clicking on the paint bucket, selecting the color you want at the bottom and then on the background	 the painbucket	<input type="checkbox"/>
4	Create the maze by creating a path. Click on the brush  then choose a color at the bottom by clicking on it (I choose white) and draw the path.  Feel free to use other tools to draw your path! Just make sure the path is only one color and that it starts near the flag and the stop sign (in the top right corner)	If the line is too small, you can change its size by moving the slider at the bottom.  <b>It is important you start at the top right!</b>	<input type="checkbox"/>
5	Create a zone at the end of your maze of a different color. This zone will be use later to know if you won or not.	The result should look a little like this 	<input type="checkbox"/>
CP	Good job the maze is created!		

Step	Challenge - Create the crawler	Hints	Done
1	<p>We have the maze but we need something that will move in the maze and try to get to the end.</p> <p>Click on new sprite (icon ) and choose something that will move in your maze.</p>	<p>I choose a pretty beetle</p> 	<input type="checkbox"/>
2	<p>Ensure the sprite is small enough to move within the white part of your maze. If you want to change its size, just click on the icon at the top and then on the sprite to make it bigger or smaller.</p> 	<p>to make it bigger, click on this icon  and then on the sprite to make it smaller, click on this icon  and then on the sprite</p> <p>I made my beetle super small </p>	<input type="checkbox"/>
3	<p>Great, your sprite's size is perfect now. We need to hook the event to our sprite. We will use the mouse to move the sprite. First, select your sprite, and then the scripts tab. What we want is for the sprite to follow the mouse as soon as we hit the flag. So we add 2 scripts to the event <i>When flag clicked</i>. The first one will make the sprite look in the right direction and the second will make it move to your mouse cursor.</p>	  <ul style="list-style-type: none"> <li>• <i>When flag clicked</i> is in events</li> <li>• <i>Point towards</i> and <i>go to</i> blocks are in motion</li> </ul>	<input type="checkbox"/>
4	<p><b>BUT ITS NOT WORKING!</b></p> <p>Yeah, the problem we have is that the <i>When flag clicked</i> events are only executed once. We want the sprite to point in mouse direction and move as soon as we move the mouse. What we need to do is put this code in a forever loop so that it will be executed every milli seconds and it will detect our smallest mouse move.</p> <p>The forever block just means I want you to do what is in this block all the time while the game is running. The computer will keep executing what you put in this 100+ times every seconds until you tell it to stop. We also call that a loop and we use that all the time in programming when we want things to execute multiple times!</p>	 <ul style="list-style-type: none"> <li>• <i>Forever</i> block is in Control</li> </ul>	<input type="checkbox"/>
5	<p>Click on the flag to start your game and test it!</p>		<input type="checkbox"/>
CP	<p>YAY! My beetle is moving with the mouse! But....</p>		

Step	Challenge - Let's make it fun!	Hints	Done
1	<p>The rule of the game is that if the player hits the black area, he loses! In order to do that, we need to detect if the sprite touches the black color. He will lose only if he touches the black area so this is a condition. We will make the beetle say "I lost!" if that happens.</p> <p>To change the touching color, you need to first click on the touching color square and then click on the color you want to choose anywhere on the screen. <b>Just make sure you press stop so that the beetle is not following your mouse cursor.</b></p> <p>The if block is used to create a condition. Conditions are the very basis of programming. If the professionals were using these blocks, it would probably be the most popular of all because we use them all the time!</p>	 <ul style="list-style-type: none"> <li>• The if block is in Control</li> <li>• The touching color is in Sensing</li> <li>• The Say block is in looks</li> </ul>	<input type="checkbox"/>
2	<p>But we want the game to end when the beetle touches the black area.</p> <p>In order to achieve this, we just need to say that we want to stop this script or the forever loop. This means the code in the forever block will stop executing and the beetle will not follow the mouse anymore.</p>	 <ul style="list-style-type: none"> <li>• The stop script is in Control</li> </ul>	<input type="checkbox"/>
3	<p>Try your game and see if it works. Click on the stop button first, and then on the flag to start it again.</p>		<input type="checkbox"/>
CP	<p>Cool, I can get to the winning area!</p>		

Step	Challenge - We want a winner!	Hints	Done
1	<p>In order to have a winner, we need to detect if our sprite touches the winning zone and show a message if it does.</p> <p>Let's add another if, this one will be conditional if it touches the winning zone color. If it does, we just say Winner! And stop the scripts.</p> <p>You can also right click on the previous if block and click on duplicate. That will copy the entire if statement and then you can change what you want to change.</p>	 <ul style="list-style-type: none"> <li>Try to find the blocks without looking back now!</li> </ul>	<input type="checkbox"/>
CP	<p>Wow, the game is working! Good Job!</p>		
Bonus	<p>We should also make sounds when the bug wins or loses. Just add a play sound block in both if statements.</p> <p>You can create your own sounds if you click on the sounds menu at the top of the screen just beside Scripts and Costumes.</p> <p>Try to create your own recordings and play them when the user wins and loses.</p> <p>Click on this button if you want to record your own sound</p> 	 <ul style="list-style-type: none"> <li>Play sound is in Sound</li> </ul>	<input type="checkbox"/>

### Here is some ideas if you want to add extra fun to the game!

When you get to the winning zone, instead of saying winner, it teleports you to another maze!



You can do that by using the block `switch backdrop to backdrop1` in the Looks menu and create a second backdrop in the backdrop menu at the top (when your backdrop is selected at the bottom left)

When you click on the beetle, the bug makes a silly sound.

On random event, your bug can leave little poo behind it. Try this if statement in the forever loop!



What we do in this little piece of code is that first we create an if statement. We want this code to happen only when a random number is generated and that this number is one. Statistically, we should execute this code only once per 30 attempts. You can change these parameters to make this event more or less frequent.

After that, we create an invisible pen below the beetle and we draw a little dot and wait a little so that the beetle has the time to finish its job and lift the pen up so that it does not draw anymore

When you press a special key, it teleports you to the winning zone.

This is called a hack and it is used a lot in the video game industry to empower people to test the game faster. A series of different hack is created to ensure testers can get to a special place in the game very fast!

Make a really complicated part of the maze so that people concentrate a lot and when you hit this place, change your background for a zombie and play a loud scary sound at the same time!

Try this game if you want to see what I mean, but watch out, it can be really scary!  
[http://www.playscarymazegame.net/wp-content/uploads/2012/07/101\\_maze.swf](http://www.playscarymazegame.net/wp-content/uploads/2012/07/101_maze.swf)



**Think and code your own feature! Everything is possible... Try it!**