Scratch Programming

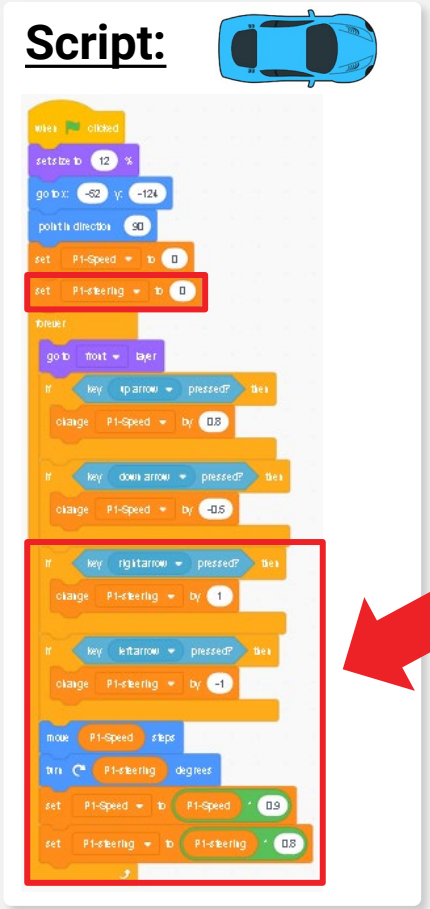
Lesson 2-8

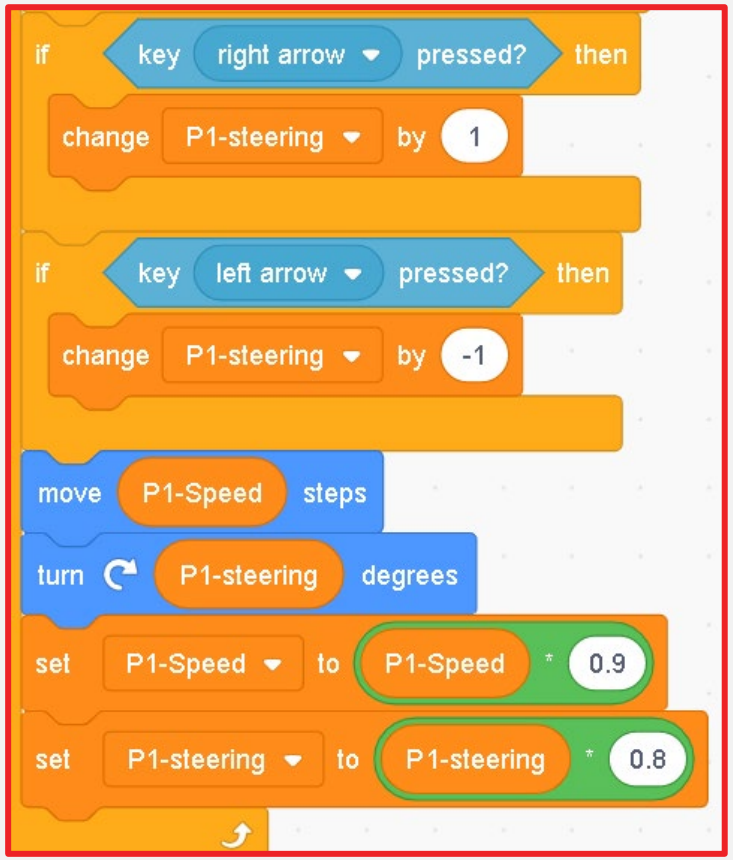
Car Race Game IV

Presented by Advaspire Team

Review – Same for Turning

Script:



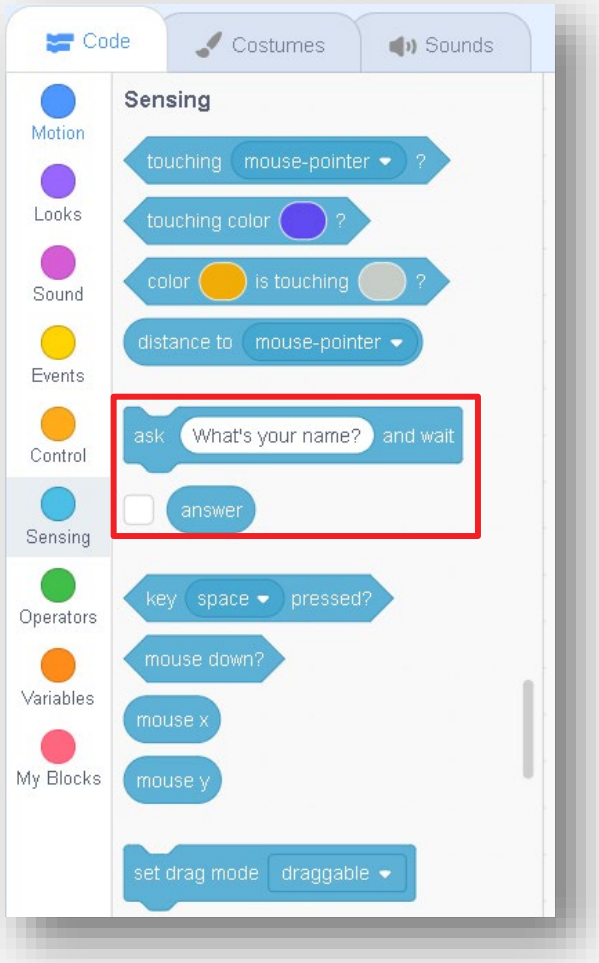


I will add a variable call steering to turn the car.

As we only increase or decrease the value of steering, we will only use "turn clockwise for __ degrees".

In future we will often use value to determine direction (negative means opposite direction).

Review - Sensing (Input & Answer)

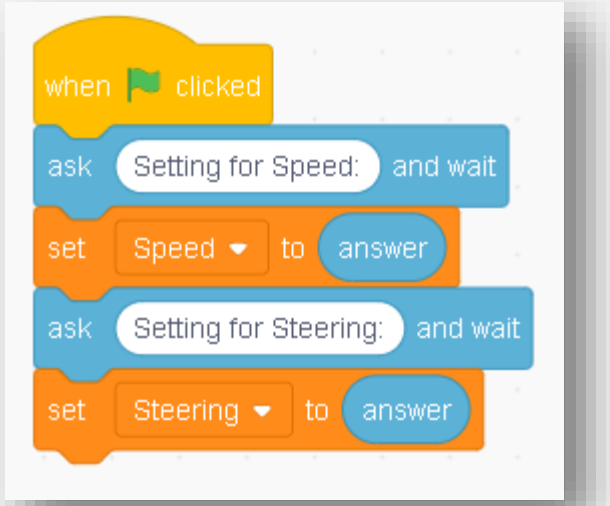


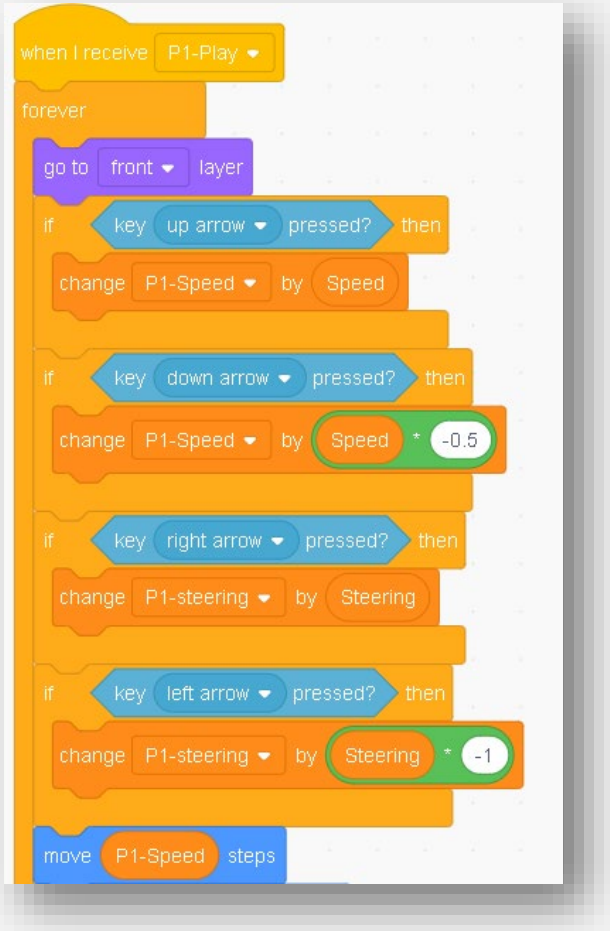
In the sensing category, we will have 1 block called "ask ___ and wait" & an answer block.

The "ask and wait block" lets player to key in some input into it and store it into a variable called "answer".

As it only has 1 variable, so if you prompt the second question, the latest input will always cover the previous one.

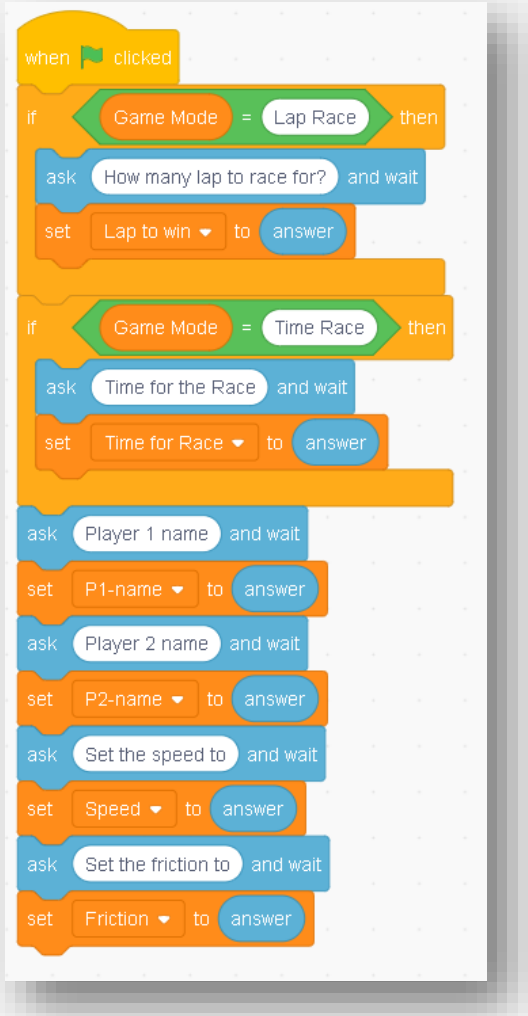
Review - Sensing (Input & Answer)





We can set our speed and steering at start then link it to the speed and steering for P1 & P2.

Review - Sensing (Input & Answer)

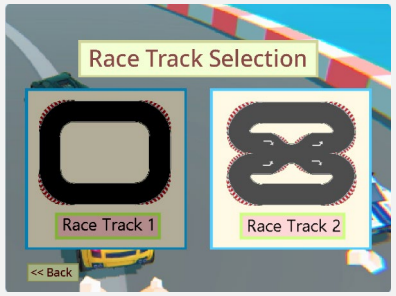


This will allow player to change the variables in game which are with wide range of options such as "speed", "timer", "Race", "Player's name" and etc.

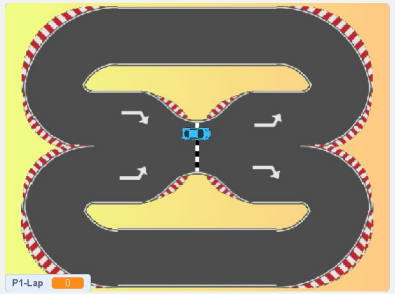
Review - User Interface Setup

Menu

Game Mode



Race Track

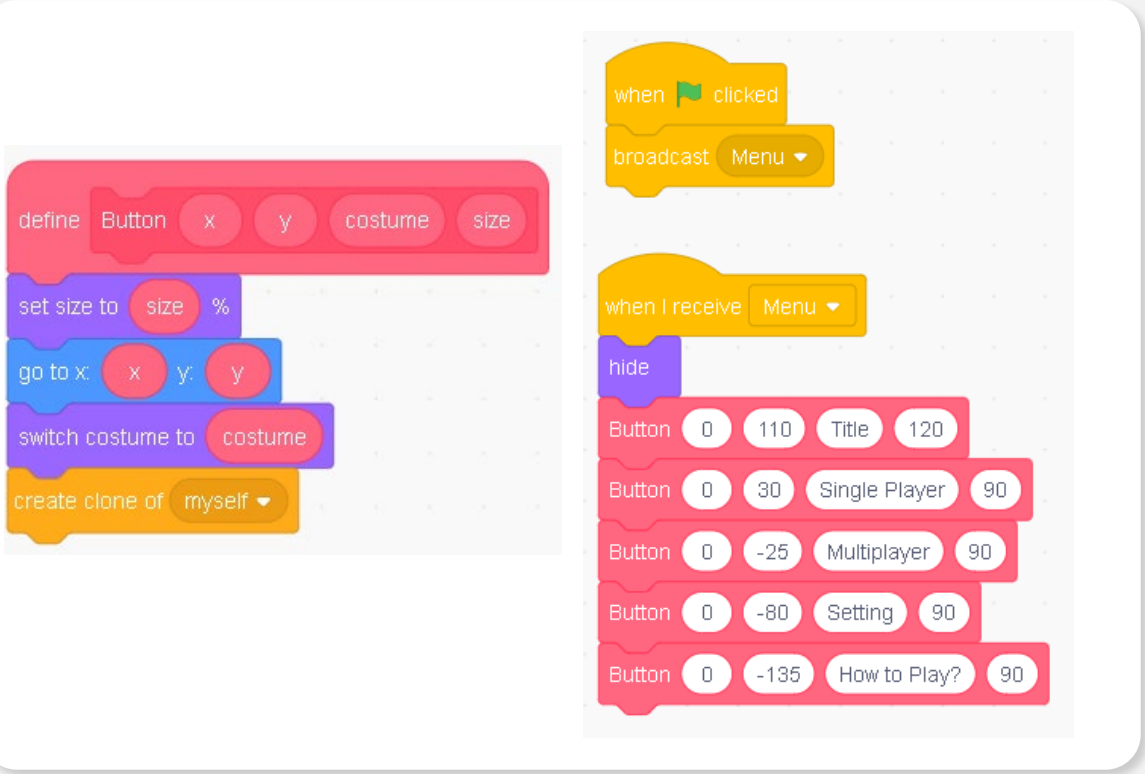


Game Play

Play Again

We need 5 pages (or "5 states") for our game which include "Menu", "Game Mode Selection", "Race Track", "Game Play", and "Play Again".

Review – Button Create Clones Method



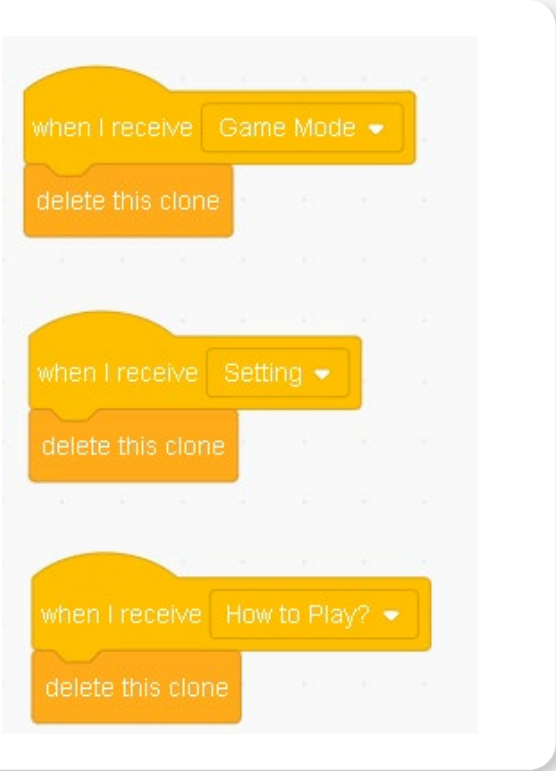
Let's create clones for all these buttons, but we won't be using any real body as our button, so I will hide it from start.

I define my customized block with 4 input (x position, y position, costume name, size), and rename this block as "Button".

Review - Button Clone Script

Let put all of these conditions into the if "Mouse down?" loop.

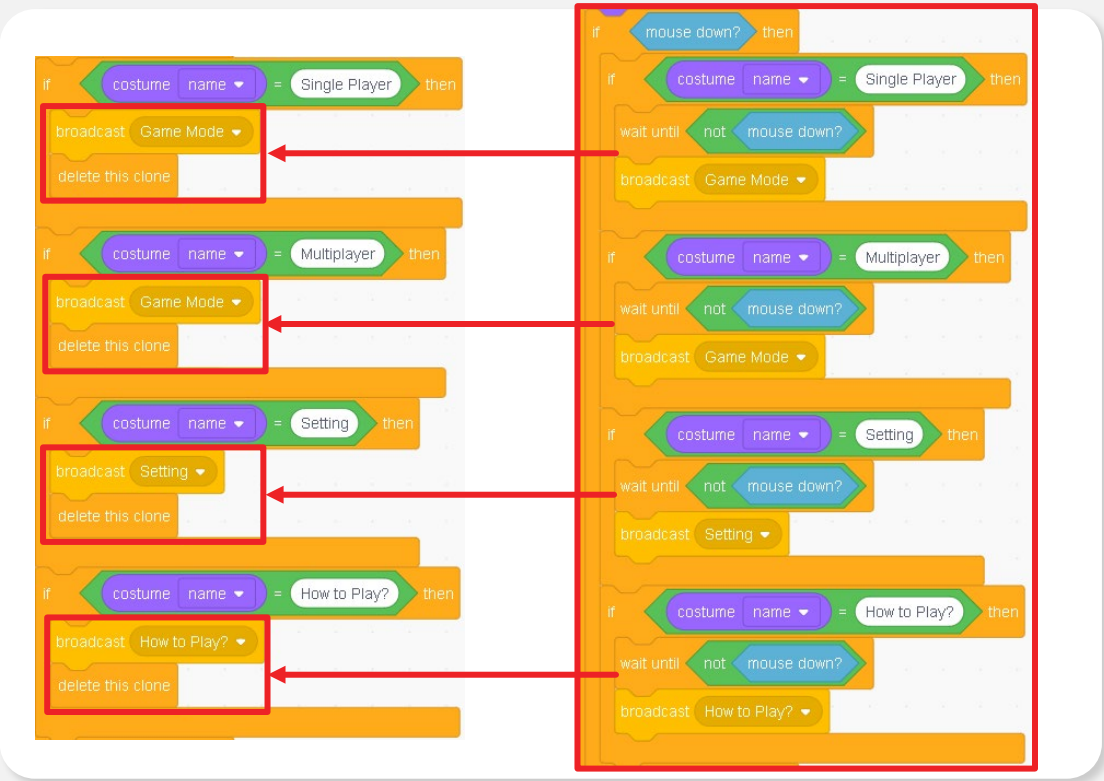
Review – Delete Clones



If we want every button to disappear after the player made the selection on any of the buttons.

We ask each clone to delete itself when received any of the messages broadcasted.

Review – Delete Clones



We don't need delete clone inside anymore as it will delete itself when received any of the broadcasts.

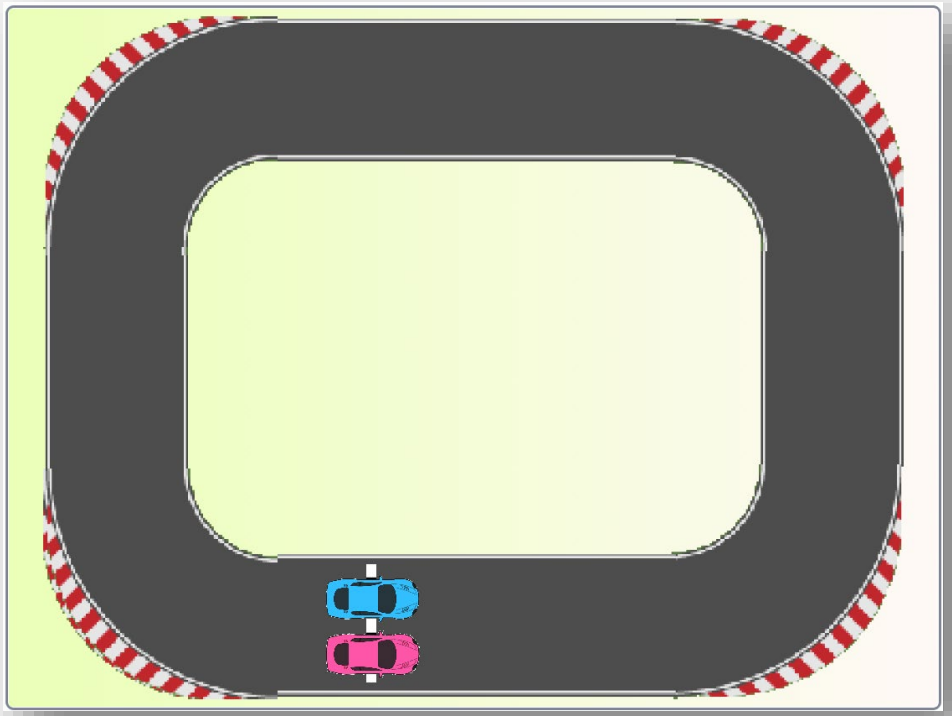
Before we broadcast to delete the clones, we want to make sure the mouse is up (released), otherwise it will cause double click issue to happen.

Review – Clear effect only for Title

Let's apply all button effect only for buttons.

So we will have an if-statement to check if the costume is not "Title" before we apply the effect to the button.

Mission 2-7 – Car Race Game



Create User Interface (“Menu”, “Game Mode”, “Race Track Selection”, “Game Play”, “Play Again” pages) for the game.

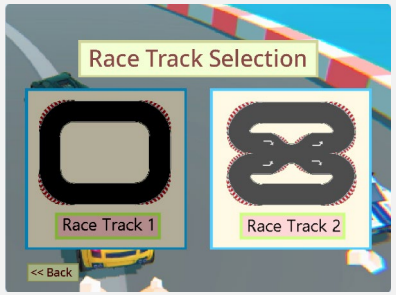
2 Game Modes options (Time race or Lap Race), 2 Race Tracks.

Use variables to take in these game mode selections, so you will know what to present at the Game Play page.

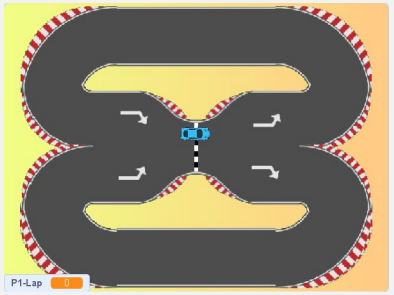
Game Mode Variables

Menu

Game Mode



Race Track



Game Play

Play Again

Now we will need to set variable to store the selected game mode.

It includes “1 or 2 players?”, “Time Race or Lap Race”, “Which Race Track is selected”, “speed of car”, “number of lap”.

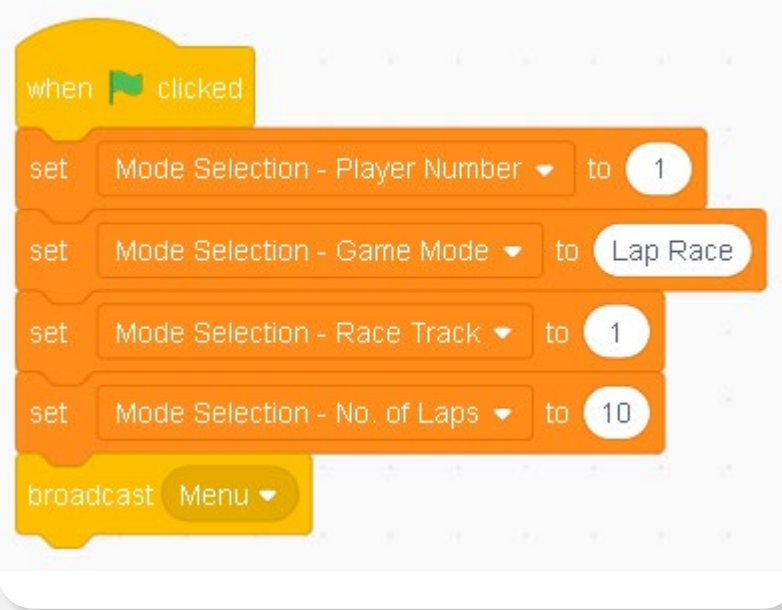
Game Mode Variables

These are the variables required for mode selection.

If we provide more options for the player to choose or manipulate, we will add in later.

Variables - Set Defaults

Script:



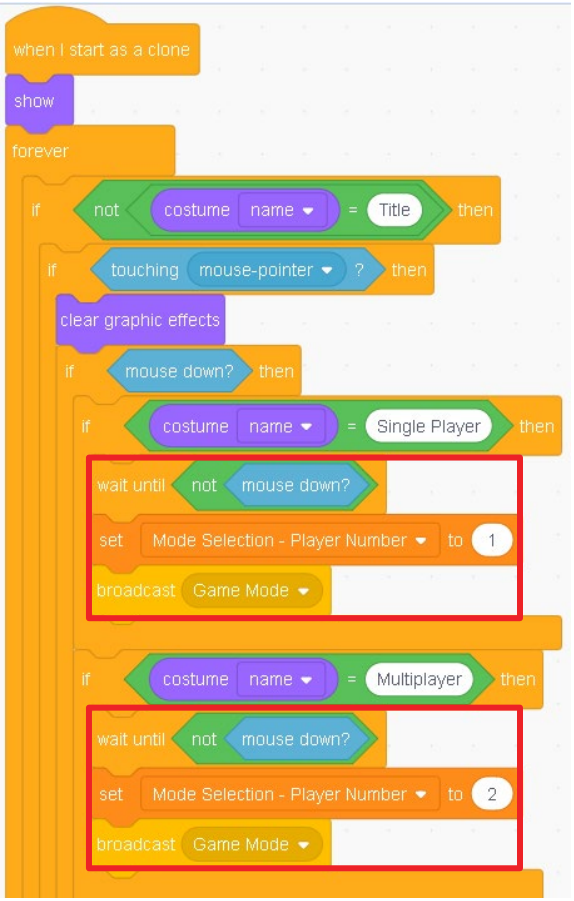
Now you can add this script to any of your sprites.

Before starting up with the menu page, all variables will be given in a default values.

But based on player's selection, it will rewrite the variables to player's choices.

Variables – Player's Selection

Script:



In the script of "Menu_Sprite", when the button starts as clone, it will check which button is clicked by the player (selected).

So if player select "Single Player", we will set the "Mode Selection – Player number" to 1, if "Multiplayer", then set it to 2.

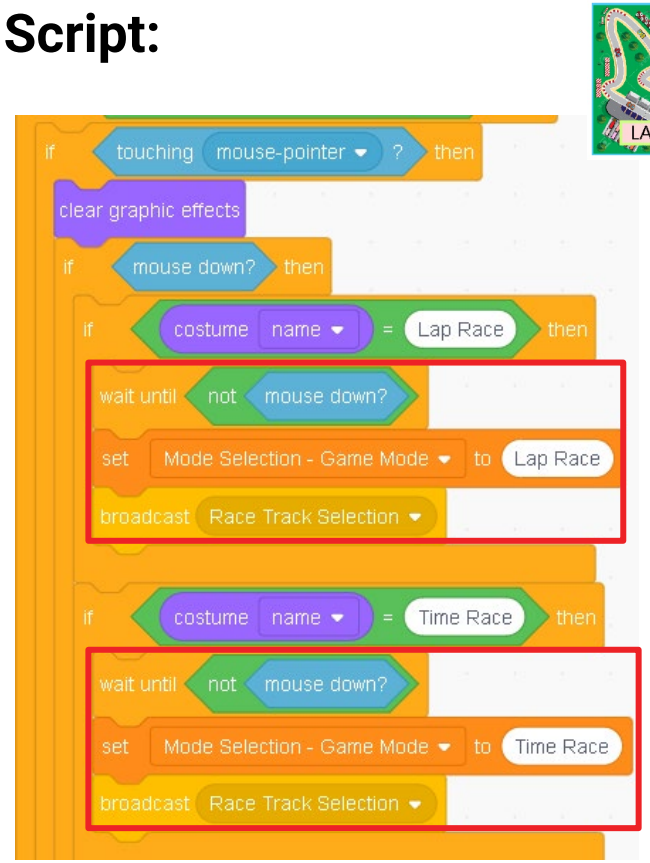
Variables – Player's Selection

Script:

And in Game Mode, if player chooses Lap Race, it will set "Mode Selection – Game Mode" to "Lap Race", else if chooses Time Race, it will set to "Time Race".

Variables – Player's Selection

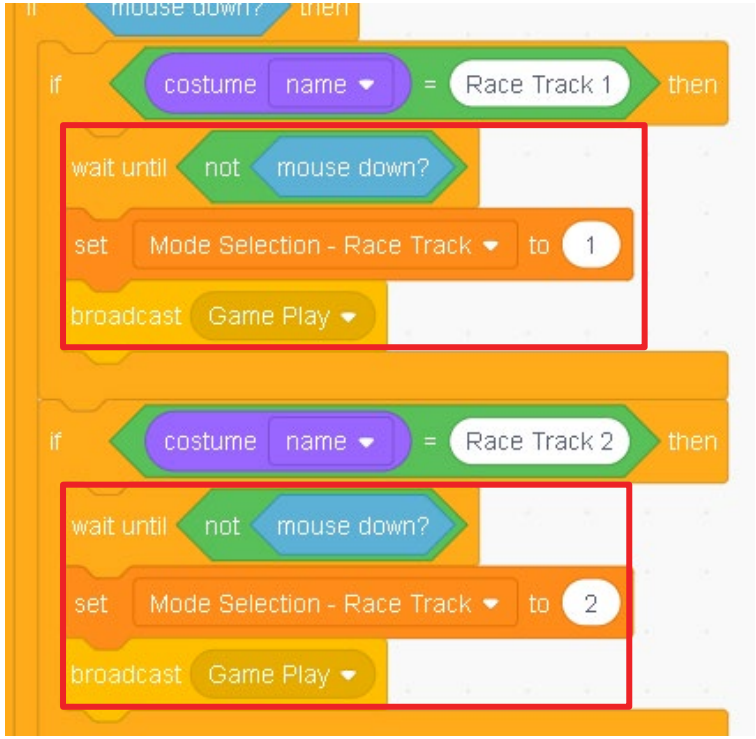
Script:



And in Game Mode, if player chooses Lap Race, it will set "Mode Selection – Game Mode" to "Lap Race", else if chooses Time Race, it will set to "Time Race".

Variables – Player's Selection

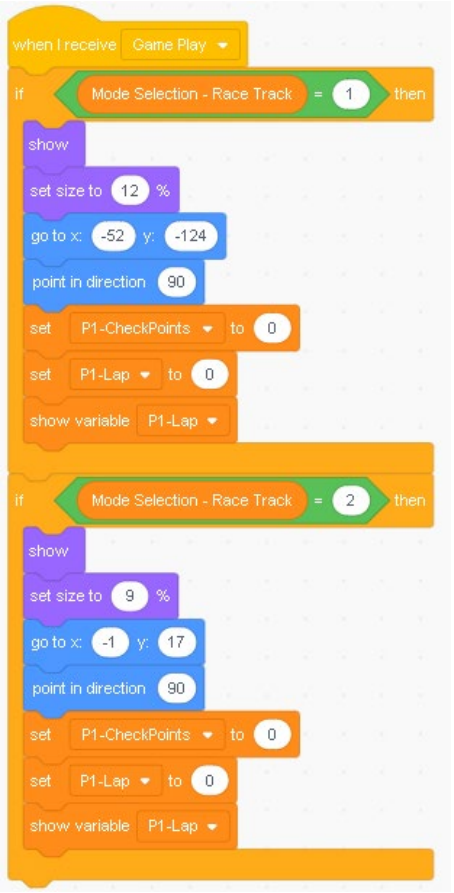
Script:



Same for the Race Track 1 & 2 Selection.

Car in Game Play

Script:

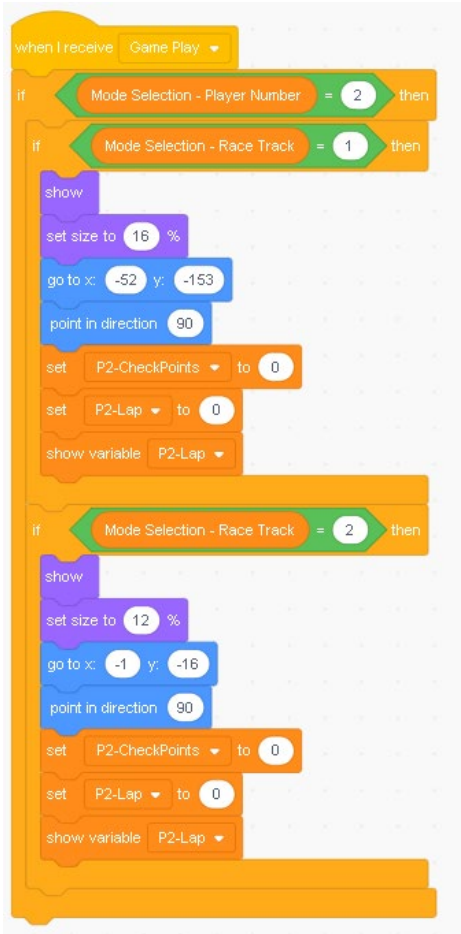


When received "Game Play" message, your P1 (Blue Car) will show itself at starting position before starting off with the control.

Based on different race track selected, your car will appear at it's starting position. Then only broadcast to Play.

Car in Game Play

Script:



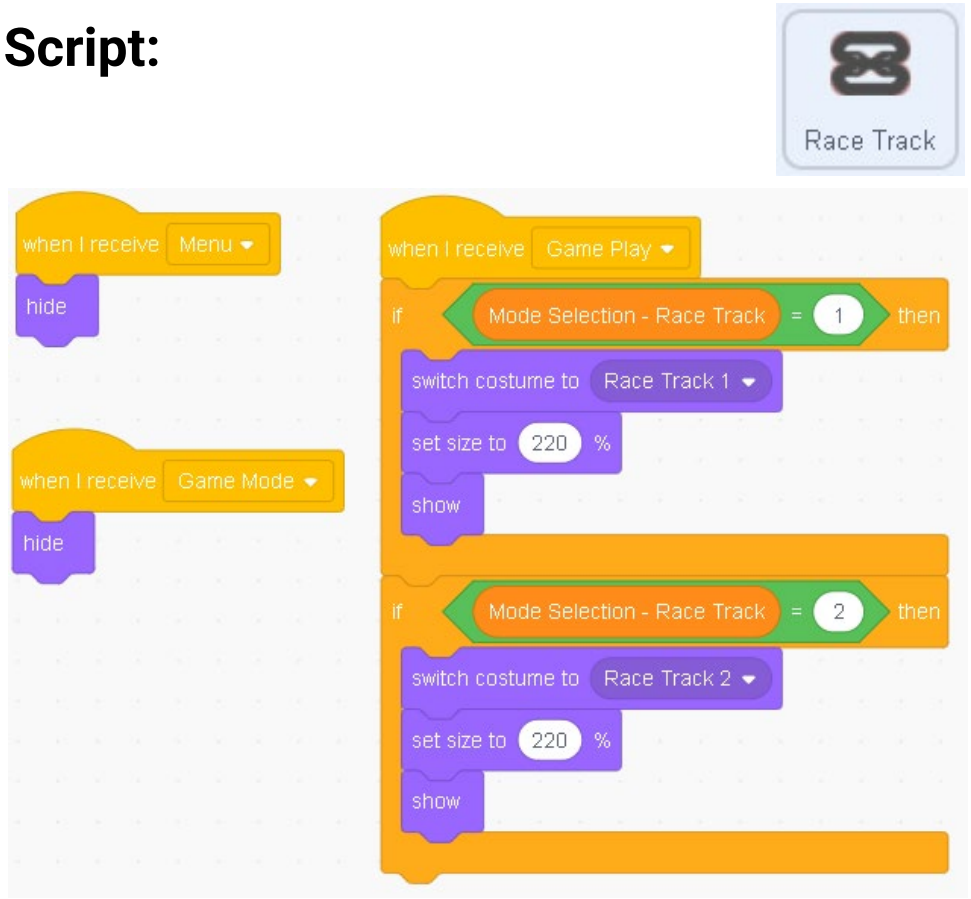
Same to your P2 Car.

But since P2 only appear if "Multiplayer Mode" is selected.

So we will add in another if-statement to check if the number of player is 1 or 2.

Race Track Script

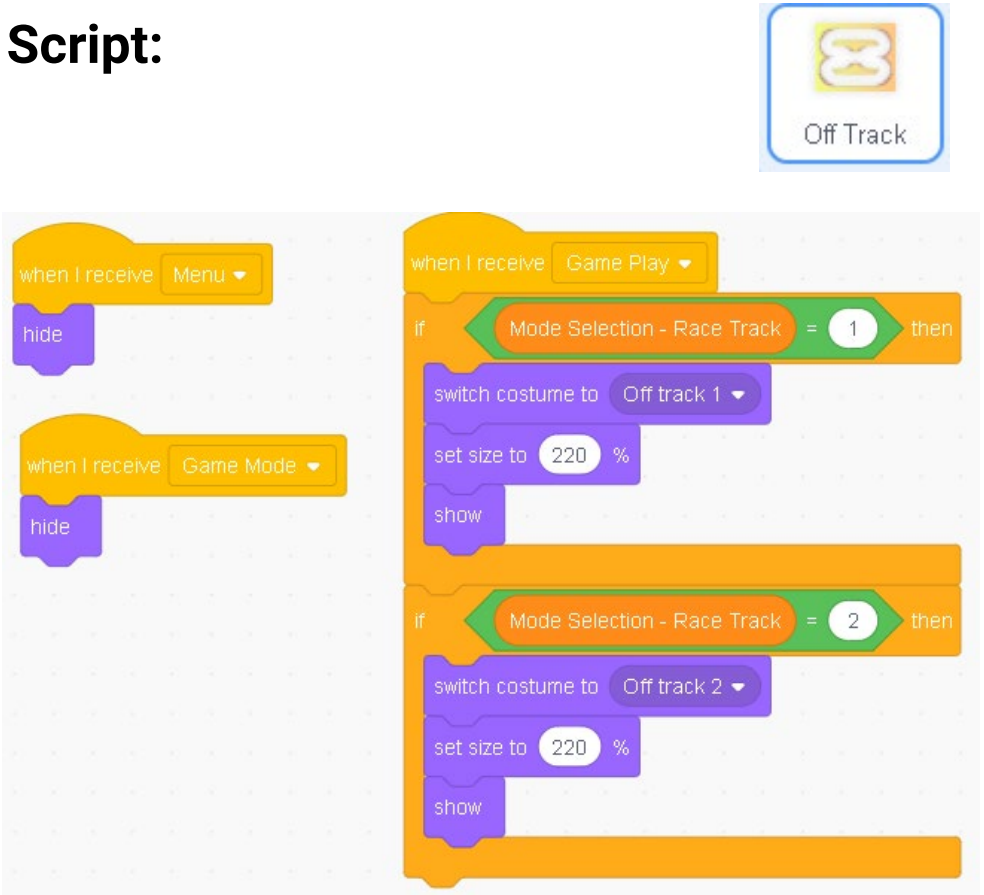
Script:



The race track concept is also similar to the car, it will check which race track is selected, then show it.

Race Track Script

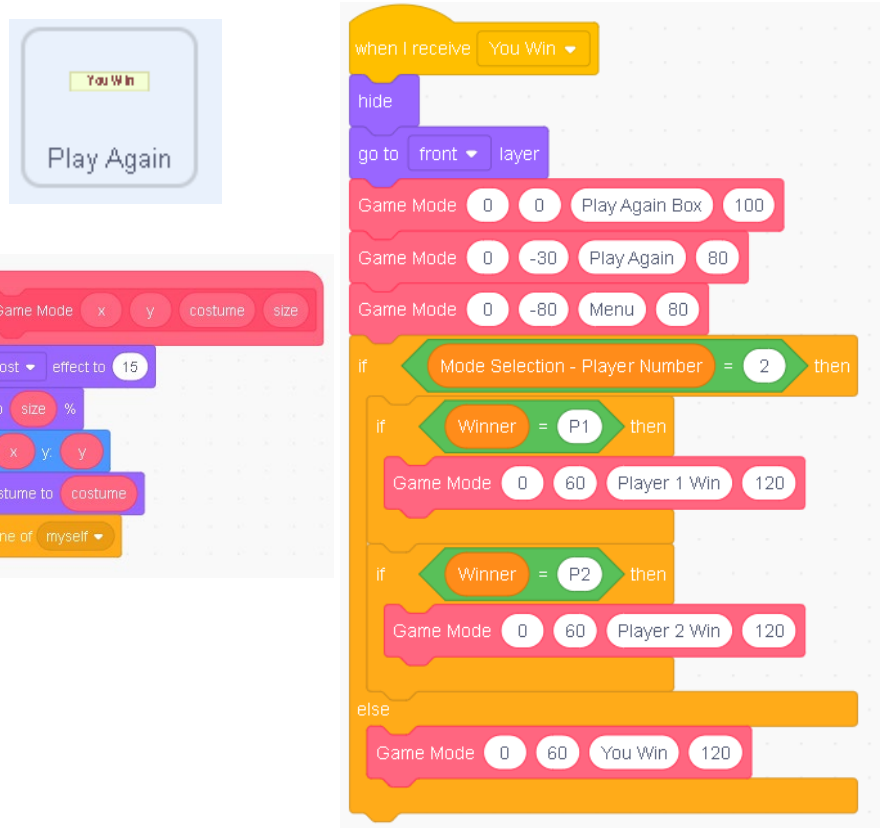
Script:



Do not forget to set for your Off Track sprite also.

Play Again Script

Script:

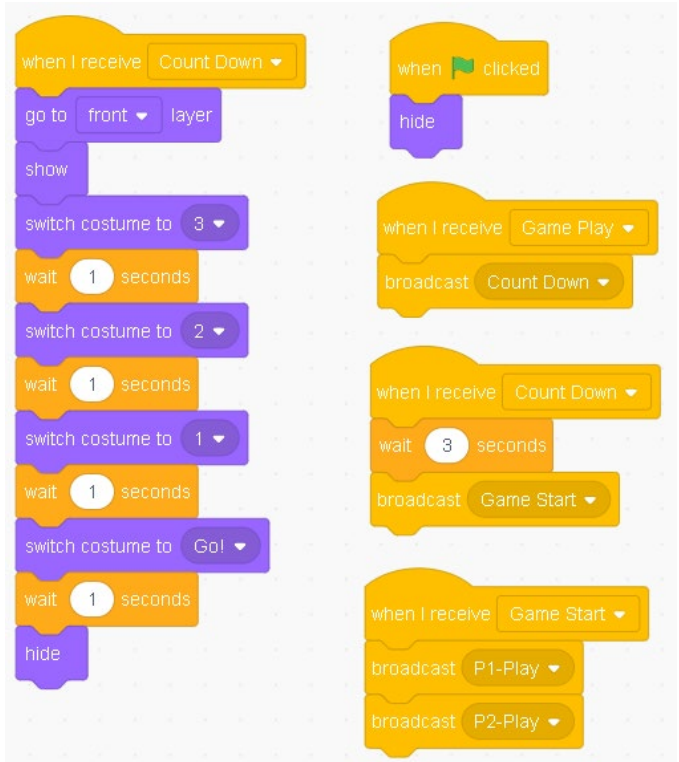


For the Play Again script, we will need to setup the position of the box first, then it will check who wins the game, and it will show the winner in the title.

Of course do remember to do the function for the clones, it's totally same as others.

Script – Count Down For 3 Seconds

Script:



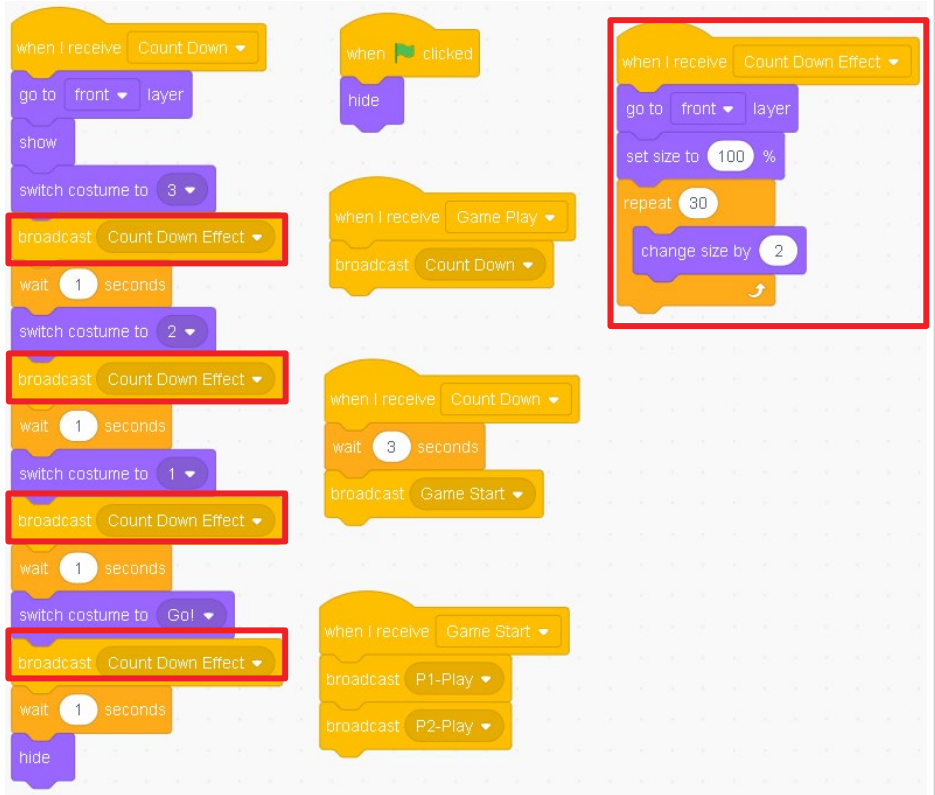
Now we want to set up a 3 seconds count down before car race starts.

I created "Count Down" sprite with "3, 2, 1, and Go!" costumes. I will use broadcast to call this out.

I will use a "Game Start" broadcast to call out both "P1- and P2-Play".

Script – Count Down For 3 Seconds

Script:



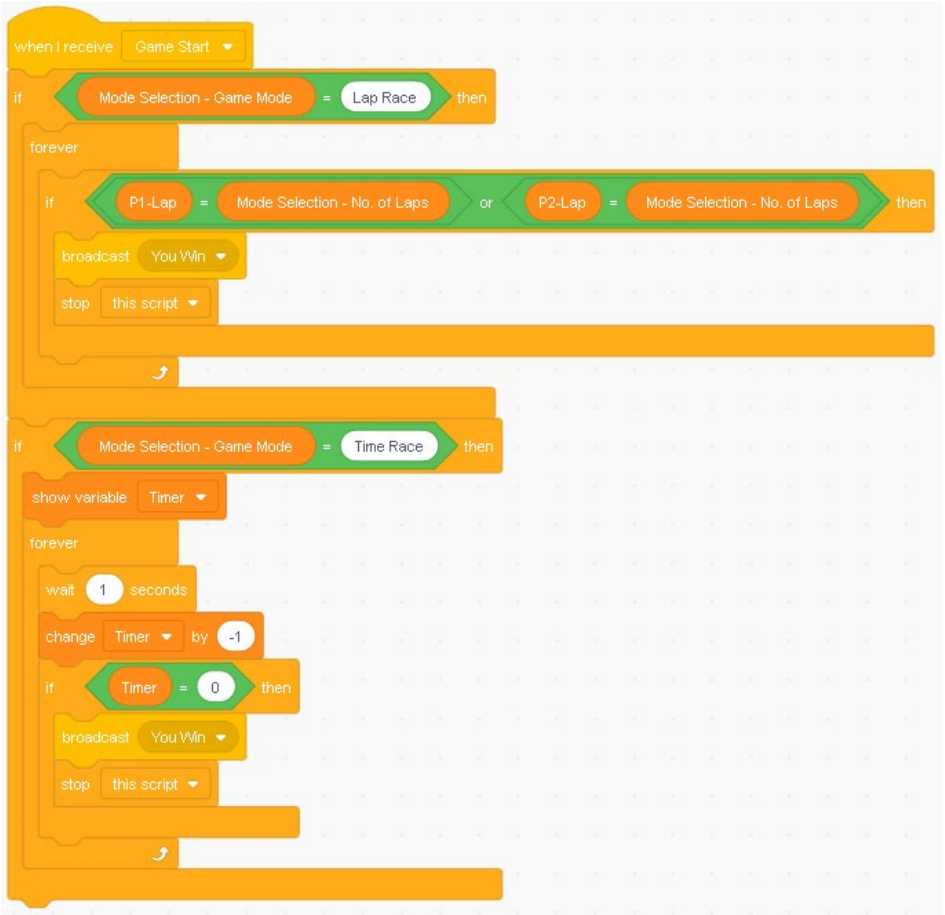
If you want some effect to your Count Down digit, you can use a broadcast and code a size changing script for the costume.

Script – Winning Condition

Script:

Backdrops

2



I will set my winning condition in backdrop.

It will check if it's Lap race or a Time race.

And whoever completes the race wins.

Script – Winning Condition

Script:

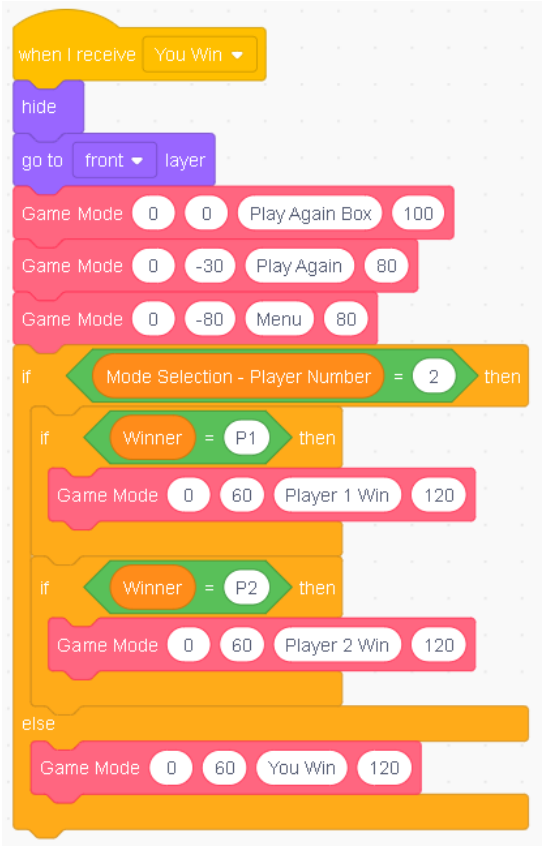
Backdrops

2

And I created a variable called "Timer" and set it as 60 seconds for default.

Script – Winning Condition

Script:



So in your "Play Again" page, you will have to judge who wins the game.

ASSIGNMENT *for*

Lesson 2-8

L2-8 – Mission

Let's try to make a setting page for the game.

And also try to make an instruction for player to read and learn how to play this game.

You can direct message your teacher and ask your question through Slack Robotene Community or arrange a One-to-One Consultation with your teacher.

Any Questions?

Thank you :)