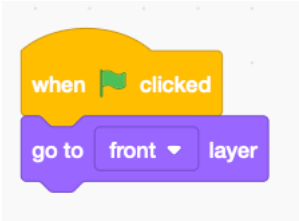
SCRATCH ...extric

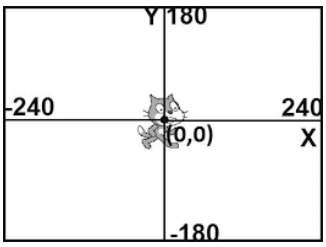
Register/login at https://scratch.mit.edu

Move and rotate the track around a car (at the origin).

1) Download the track image from:
   https://codeclub67.github.io/images/track.png
2) Create a new sprite from **track.gif** and set the size to 150%.
3) Download car graphics from:
   https://codeclub67.github.io/images/microcar.gif
4) Create a new sprite from **microcar.gif** and set the size to 35%.
5) Add car code to keep it on the front layer.



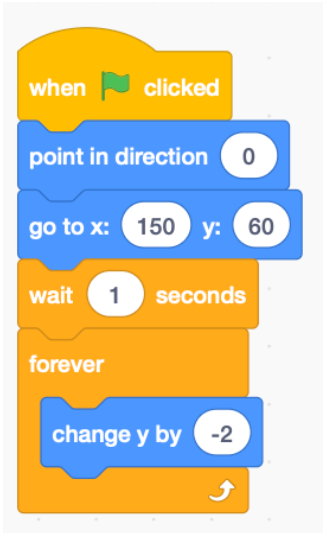
*The car **must** be at (0,0) called the screen origin, right in the middle of the screen.*



6) Set the x, y coordinates of the car to 0,0.

Leave the car where it is and move the track.

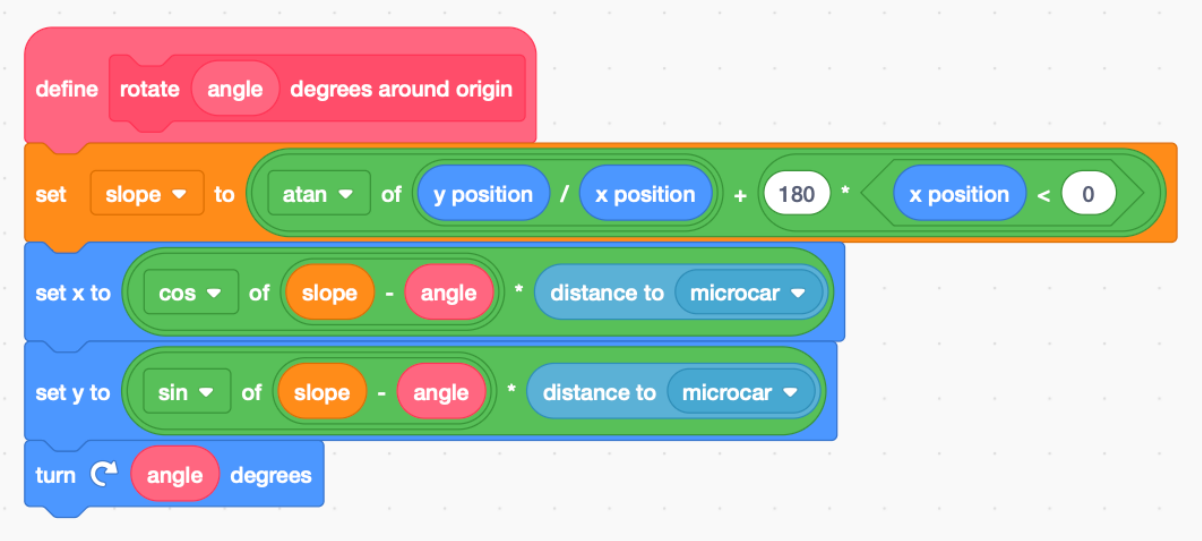
7) Add this code to the track. It positions the track with the car behind the starting line. Moving the track downwards (Decreasing y) makes the car appear to move forward.



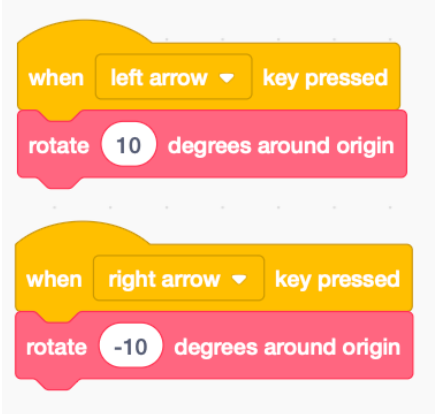
Steer the car by turning the track. Normally we can only rotate a sprite around its own centre. The code below rotates a sprite ***around the origin*** *(0,0) where the car is.*

8) In **Variables**, make a new variable called **slope** (the angle between the track and the origin).

9) In **My Blocks**, **Make a Block** to rotate a sprite by some **angle**. This uses *trigonometric* functions (sin, cos, atan) that work out how x, y change as you go round a circle.



10) Use the new block when you press the left and right arrows to steer. To turn right rotate the track anti-clockwise -10° (degrees). To turn left rotate the track clockwise 10°.



Wave the ***green flag*** *to start the race.*

Try adding code to the car to see if it has come off the track by sensing colours, and make it explode.

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