Documentation for Wheel object

The wheel object is for demonstrating rotational motion. It includes displaying vectors of parts of motion and displaying the visual nature of a non-slippling rim of length S in comparison to floor distance D.

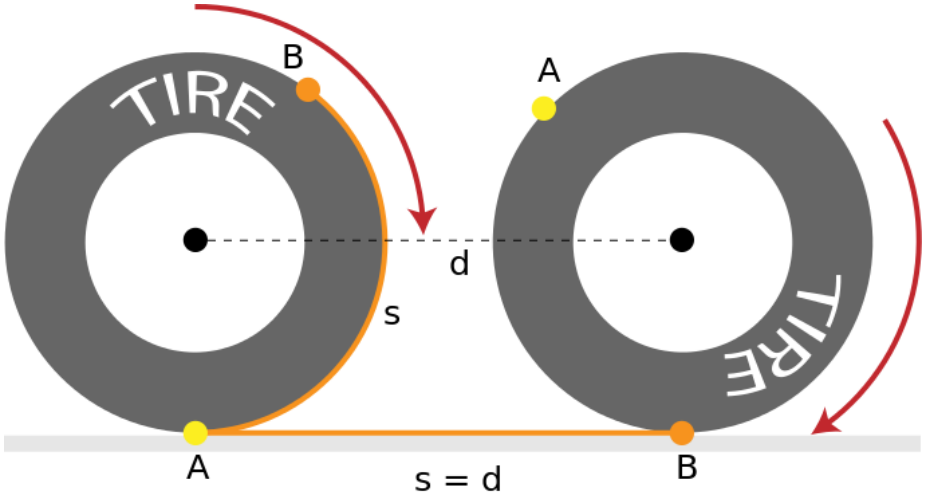

Figure 1: example

Creating the Wheel:

To make a wheel use the following code:

```
var my_wheel = new wheel(_x,_y,_d);
```

where...

- _x = x position of the center of the wheel.
- _y = y position of the center of the wheel.
- _d = the diameter of the wheel object.

This will create a wheel object. To draw the object call the following in the draw() function:

```
my_wheel.draw();
```

Spinning the wheel:

the above code will create a wheel object. However, you will notice that the wheel does not spin. To make the wheel spin you must set the rotate variable to true.

```
my_wheel.rotate = true;
```

To save extra computing work, just call this once in the setup() function if you don't want the wheel to stop rotating.

Wheel Decorations:

Let's say that you think just a spinning wheel is too plain. There are a couple of ways to spice it up. The first thing that you can do is to show arrows on the wheel that demonstrate different vectors involved with the wheel's motion.

for example:

- velocity
- acceleration
- translation
- rotation
- etc. . .

(note – vector decorations have not been added yet).

The other type of decoration that you could use is **color decor** which lets you keep track of when exactly half of the circle has rotated.

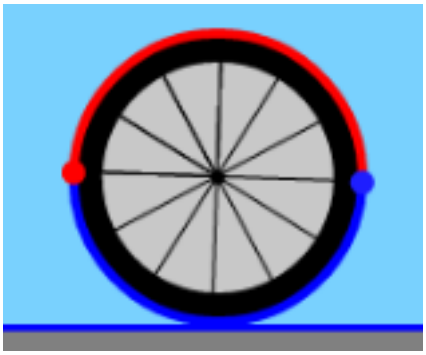

Figure 2: color decor