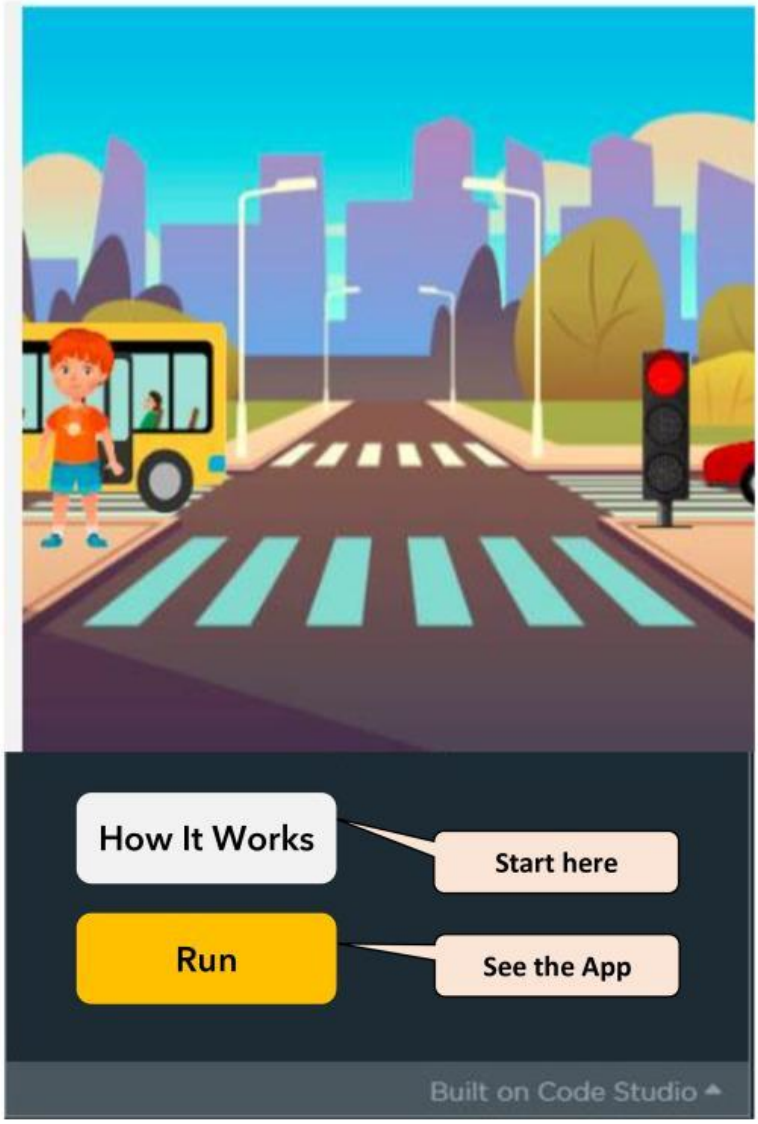
Project 69

DP EDUCATION

Coding School



LIVEWORKSHEETS

- Let's help the little friend to cross the road without accident.

- First, let's design the background and related sprites.

- At the beginning of coding, create a variable as time to calculate the time.

```
var time = 0;
```

- Create a new sprite to create the background. Its position is (200,200)

- Select the background.png image as the sprite's animation.

```
var bg = createSprite(200, 200);
bg.setAnimation("background.jpg_1");
```

- Then let's design the car coming from the right. Create a sprite as a car for that. Select the "carSide.png_1" image for that.

- The positions and scale of the car are as follows.

X - 450
Y – 240
Scale – 0.4

```
var car = createSprite(450, 240);
car.setAnimation("carSide.png_1");
car.scale = 0.4;
```

- Now let's create the bus coming from the same direction. Create another sprite as bus. Select the "bus.png" image for the setAnimation block.
  Give the position and scale as below.
  X – 300 Y – 220 Scale – 0.7
- Then let's create the two colour lights that show red and green colours.

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Create a sprite as above and name it as greenColorLight and redColorLight. Select “greenColorLight.png_1” and “redColorLight.png_1” as their animation

- Both sprites have the same position and scale.

  X - 350

  Y – 230

  Scale – 0.17

- But since the red color should be displayed at the beginning, let's hide the visibility of the sprite that displays the green color. Use the following code block for that.

```
greenColorLight.visible = 0;
```

- Finally, let's create how our little friend gets off the bus and stands on the side of the road until the green color appears.

- Create a new sprite as “kidStand”. Select the image "childStand.png_1" for that. Give its positions and scale as below and create it.

  X - 30

  Y – 230

  Scale – 0.4

- The child will be visible shortly after the bus arrives at the respective location, so the visibility should be hidden as above.

```
var kidStand = createSprite(30, 230);
kidStand.setAnimation("ChildStand.png_1");
kidStand.scale = 0.4;
kidStand.visible = 0;
```

- Now design all the sprites and finally let's code the functionalities. To display all these sprites in the draw function drawSprites(); Calling the function is mandatory.

```
drawSprites();
```

- First let's create the bus running. For that, code this block in the draw function. This makes the bus sprite move in the -x direction with a velocity of 5.

```
bus.velocityX = -5;
```

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- Use the following blocks to stop the bus at the appropriate place for the child to get off the bus.

```
function draw() {
  bus.velocityX = -5;
  if ( bus.x < 50 ) {
    bus.velocityX = 0;
    time = World.seconds;
  }
```

Do all the codes in the draw function.

For the bus to move to the left with a velocity of 5.

If the x position of the bus is less than 50, then the left side of the bus can be created by setting the velocity of the bus to 0 so that the child can get off the bus.

Set the time to the time variable to start the time calculation at this very moment

- Let's show the visibility of the kidStand sprite to show that the kid got off the bus after more than 2 seconds after starting the time calculation.

```
if( time>2 )
{
  kidStand.visible = 1;
  bus.velocityX = -5;
}
```

At this time, the bus again starts moving to the left. Bus.velocityX=-5 code is used for that.

- At this time, the car should also start moving to the left. Insert it after the if block.

```
car.velocityX = -0.1;
```

- The green color light should appear one second after the child gets off. For this, the visibility of the sprite showing the red color should be hidden and the sprite showing the green color should be visible. When the green light appears, the car must also stop moving. Code as below for that.

```
if ( time>3 ) {
  redColorLight.visible =0;
  greenColorLight.visible =1;
  car.velocityX =0;
}
```

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- When the green color appears, the child can cross the road. For that, let's create how the child moves when pressing the right arrow key to move to the right.
- Here the image of the kidStand sprite should be changed from the standing image to the walking image. For that, select "childWalking.png_1" as the image of the sprite in the if block as follows..

```
if ( keyWentDown( "right" ) ) {
  kidStand.setAnimation( "ChildWalking.png_1" );
  kidStand.velocityX = 3;
}
```

- If the child is able to cross the road before the red color appears, design him to walk along the road in a southerly direction after reaching the other side of the road.

```
if ( kidStand.isTouching( greenColorLight ) ) {
  kidStand.velocityX = 0.5;
  kidStand.setAnimation( "ChildStand.png_1" );
  kidStand.velocityY = 3;
}
```

- Let's make the red color appear after 7 seconds and make the car start moving to the left. For this code as below.

```
if( time>7 ){
  car.velocityX =-1.8;
  redColorLight.visible = 1;
}
```

- Let's make the car turn left and move in the right direction when 11 seconds have passed. For this, the image of the car sprite must be an image of the front face of a car. It is given to you in the library as “car.png_1”.
- First, in the If block, set the x-direction velocity of the car sprite to 0. Then set the image. Finally give a velocity of 1 in the y direction.

```
if ( time>11 ) {
  car.velocityX =0;
  car.setAnimation( "car.png_1" );
  car.velocityY = 1;
}
```

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- If the child is unable to cross the road within the time when the green color is displayed, let's code in such a way that the car will start moving and the child will collide with it and an accident will occur.

- For that use `car.isTouching(kidStand)` this block inside an if block.

- If so, let's destroy the kidStand sprite and create a sound like below. With that, the app can be designed more beautifully. For this use playSound blocks as you learned in app lab. Included in the relevant music library.

```
playSound("honk-105849.mp3", false);
playSound("glass-break-5978.mp3", false);
```

Select the correct answer

1. What blocks should be applied to make the bus travel in the west direction?

```
bus.velocityX = -5;
```

```
bus.velocityY = 5;
```

```
bus.velocityX = 5;
```

2.
```
if (time>11) {
  car.velocityX = 0;
  car.setAnimation("car.png_1");
  car.velocityY = 3;
}
```

What does this block do?

When the value of time is less than 11, the sprite called car stops moving west and changes into a car moving south and moves south.

When the value of time is greater than 11, the sprite called car stops moving west and changes into a car moving south and moves south.

When the value of time is greater than 11, the sprite called car stops moving west and changes to a car moving north and moves north.

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3.

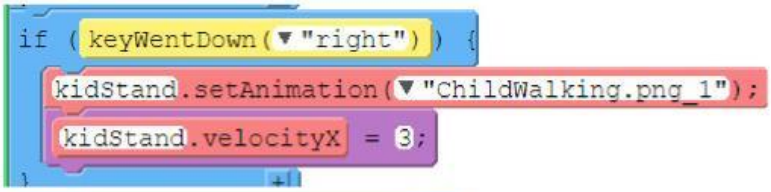
What does this block do?

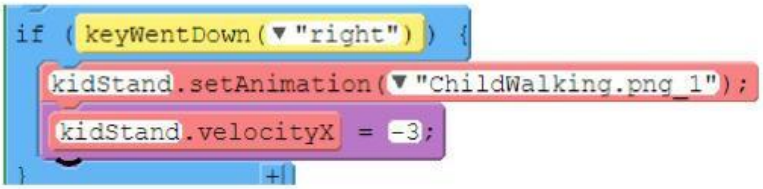
When the sprite named as Car touches the sprite named as kidstand, the sprite named as kidstand disappears and sounds are emitted.

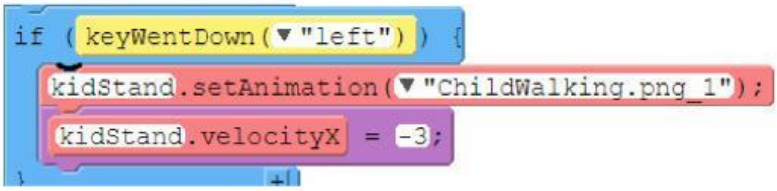
When the car sprite touches the kidstand sprite, the car sprite disappears and sounds are emitted.

When the car sprite touches the kidstand sprite, the bus sprite disappears and sounds are emitted..

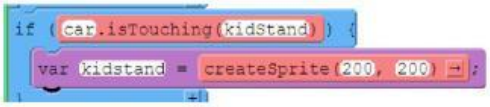
4. When the right arrow key is clicked, what block should be applied to make the child move in the east direction?

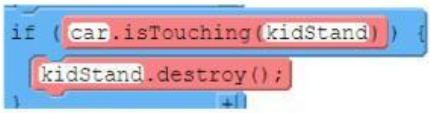


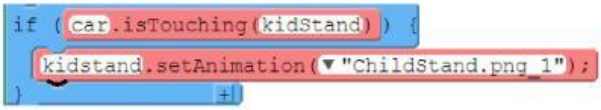




5. When the car touches the child, what block should be applied to make the child invisible?







LIVEWORKSHEETS