



## CODE CONTROLLED BUGGIES

Driverless cars will be the transport of the future, moving passengers from home to their destinations safely and efficiently using code.

Using the micro:bit block editor (<https://makecode.microbit.org/>), copy and construct the code below to navigate a Siemens Robo Buggy along Routes A and B on our Auto City map.

## Route A

```

on start
  drive motor all speed [ ]
  pause (ms) 1350
  drive motor all speed 0
  pause (ms) 1000
  drive motor left speed [ ]
  drive motor right speed [ ]
  pause (ms) 210
  drive motor all speed 0
  pause (ms) 1000
  drive motor all speed [ ]
  pause (ms) 4000
  drive motor all speed 0
  
```

## Route B

```

on start
  drive motor all speed [ ]
  pause (ms) 1500
  drive motor all speed 0
  pause (ms) 1000
  drive motor left speed 0
  drive motor right speed [ ]
  pause (ms) 210
  drive motor all speed 0
  pause (ms) 1000
  drive motor all speed [ ]
  pause (ms) 3750
  drive motor all speed 0
  pause (ms) 1000
  drive motor left speed [ ]
  drive motor right speed [ ]
  pause (ms) 210
  drive motor all speed 0
  pause (ms) 1000
  drive motor all speed [ ]
  pause (ms) 1500
  drive motor all speed 0
  
```


 HELPFUL HINTS

- Use the number on the underside of your vehicle to fill the blank speed boxes on the green parts of the code
- Each buggy has a left and a right motor – turning both motors forward with a positive speed will make the buggies run forwards. To turn the buggy, move one motor forwards and the other in reverse, shown above as a negative speed.
- Pauses are used to tell the buggy how long an instruction lasts for.



## RADIO CONTROLLED ROBO BUGGIES

Driverless cars will be the transport of the future, moving passengers from home to destinations safely and efficiently using code sent by radio from Traffic HQ.

Help code the Siemen's Robo Buggies to navigate the test roads on our Auto City map.

### RADIO CONTROL DRIVE!

Using the micro:bit block editor (<https://makecode.microbit.org/>), copy the code below below onto your Robo Buggy and use your radio control handset to navigate routes A B and C safely and without going onto the pavement.

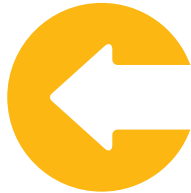
```

on start
  radio set group 151
  set received to 0

on radio received receivedNumber
  set received to receivedNumber
  
```

```

forever
  if (received == 1)
    then
      pause (ms) 400
      drive motor right speed
      drive motor left speed
      pause (ms) 70
      drive motor all speed 0
  else if (received == 2)
    then
      pause (ms) 400
      drive motor right speed
      drive motor left speed
      pause (ms) 70
      drive motor all speed 0
  else if (received == 3)
    then
      pause (ms) 400
      drive motor left speed
      drive motor right speed
  else if (received == 4)
    then
      drive motor all speed 0
  
```

**Controller Instructions:****Forward: A + B****Left: A****Right: B****Brake: Shake!****HELPFUL  
HINTS**

- Use the number on the bottom of your vehicle to fill the blank speed boxes on the green parts of the code and the number on your handset for the radio group number.
- Each buggy has a left and a right motor – turning both motors forward with a positive speed will make the buggies run forwards. To turn the buggy, move one motor forwards and the other in reverse, shown above as a negative speed.
- Pauses are used to tell the buggy how long an instruction lasts for.