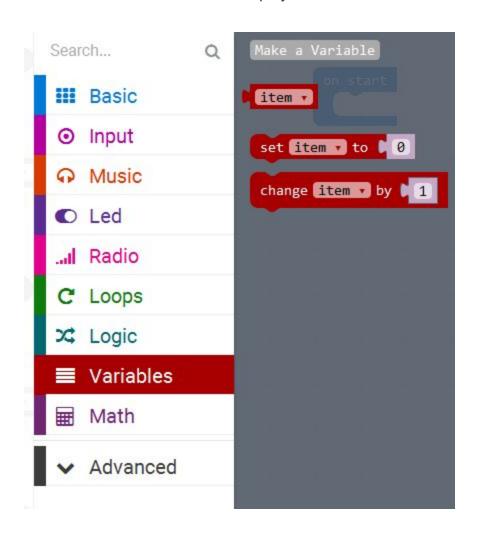
Car Racing

Visit: https://makecode.microbit.org/ to get started



Let's initialise a few variables the player's car.



When prompted create new variables called: playerCar

At the start of the game we are going to place the car at the bottom middle of the display.

```
on start

set playerCar v to ( ∞ create sprite at x: (2 y: (4)
```

Now from the Game option set the score to 0.

```
on start

set playerCar v to concreate sprite at x: 2 y: 4
```

We are now going to add two event handlers to respond to the user interaction, when the user presses the button A or B. We will use code to move the car to the left or to the right by changing its X coordinate.

```
on button A pressed

if playerCar v x v by 1-1

then playerCar v change x v by 1-1
```

```
on button B v pressed

if ( playerCar v x v 4

then playerCar v change x v by 1
```

Let's create a loop that runs indefinitely and it sets a variable called gameOn to true and pause for 100ms. At the end once the game will be over it will display a game over message with the final score.

```
set gameOn v to ( true v

while ( gameOn v = v ( true v

do  pause (ms) 100

co game over
```

The first car called car0 will be positioned at the top of the screen on lane 0. It will then move downwards (by changing the Y coordinate of the car) till it reaches the bottom of the grid. Once at the bottom of the screen we can check if it is colliding with the player's car. If not we reposition the car at the top of the screen and give it a randomised delay. Create a new variable called car0.

The purpose of the randomised delay is to make sure that all 5 cars do not all come down at the same time.

```
## forever
  🗘 if
          gameOn ▼
       set car0 v to ( co create sprite at x: 0
  then
       pause (ms) pick random 0 to 5000
             gameOn v = v true v
       do
                    car0 v
          then
                        playerCar touching car0 v
                     set gameOn ▼ to ( false
                else
                     change score by 1
                     co car0 set y to 0
                     pause (ms) ( pick random 0 to (
          else
               car0 🔻
                           change y v by (1

    pause (ms) € 500
```

For this final step we can copy the code from step 3 and paste it for the other 4 cars (car1 to car4). Create new variables car1, car2, car3 and car4. Make sure you create sprite at x and y for each car correctly.

```
Ⅲ pause (ms) ( 100
Ⅲ pause (ms) 0 100
                                                                   O if | | GameOn - E O | true -
o if | gameOn | Els | true |
                                                                   then set canals to 0 o create sprite at x: 0 2 y: 0 0
then set capital to [ 🐟 create sprite at x: [1] y: [0]
                                                                        m pause (ms) | pick random 0 to 0 5000
                                                                        while ( gameOn - Es true -
    while | Geneon Carper
                                                                                    ... (Care 1700 SED 1/4)
                · (CONT.) (72) CON 4
                                                                            then of if | O ( DISTRICTION ) touching ( COPIE )
             0 if | on playercame touching (caning)
                                                                                 then set geneones to I felses
             then set geneons to ( falses
                                                                                 else oo change score by 1
             else on change score by 1 1
                                                                                      co (Car2 - set (Ma) to (0)
                  os Canlas set (12 to (0
                                                                                      pick random 0 to 0 5000
                  pause (ms) pick random 0 to $ 5000
                                                                                co (Car2 change (753 by 8 1
        else on Conline change ( by | 1
                                                                                 ## pause (ms) ( 500
             ■ pause (ms) ( 500
■ pause (ms) ( 100
                                                                   pause (ms) ( 100
                                                                   @ if | gameOn - ETS| true
G if gameOn - = true
                                                                  then set cond to los create sprite at x: 04 y: 08
then set cansum to 0 oreste sprite at x: 0 y: 0 0
                                                                       pause (ms) ( pick random 0 to $ 5000
     main pause (ms) pick random 0 to 5000
     while ( gameOn - Exp Enve o
                                                                       · (2743) (75) 55044
                  O 1 CONST 1763 CES 1/4
                     on [playercanes] touching (Carsus) ?
                                                                                o if | o | playerCare touching | care ?
                                                                                then set geneons to ( false -
              then set gameOnes to ( felse -
              else o change score by
                                                                                else os change score by [1]
                   co CERTE set (VEC) to 1 0
                                                                                     on Cand o set (700 to 100
                                                                                     m pause (ms) ( pick random 0 to $ 5000
                   ## pause (ms) ( pick random 0 to 0 5000
                                                                           else 😡 🚾 can4 🖫 change 💯 by 📵
         else 🕟 🔃 change 💯 by 💵
                                                                                iii pause (ms) ( 500
             ## pause (ms) $ 500
```

Update final game loop to print gameover.

Challenge:

Tweak this code so that the game cars go faster and faster as the user's score increases.