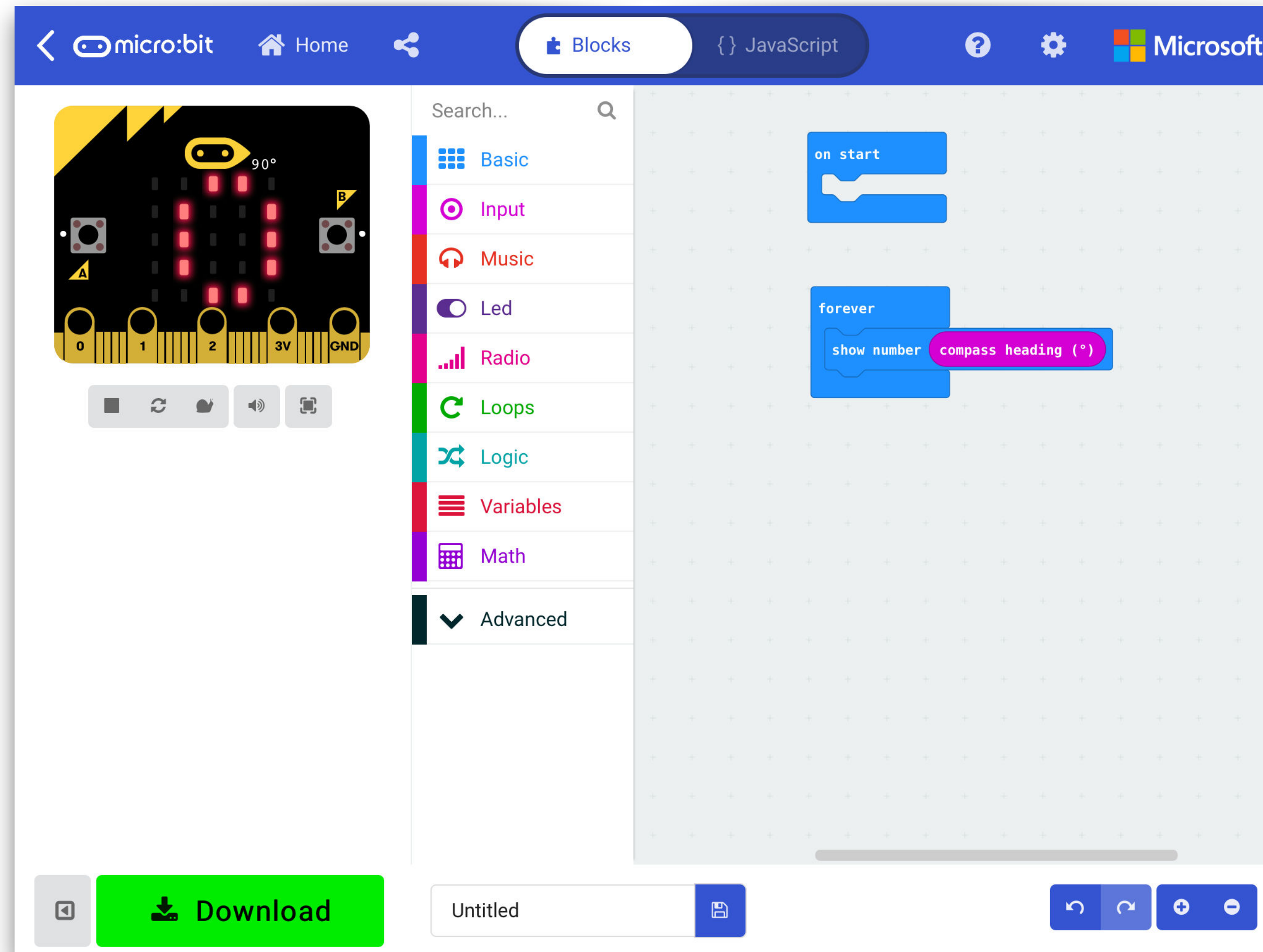




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Challenge 4

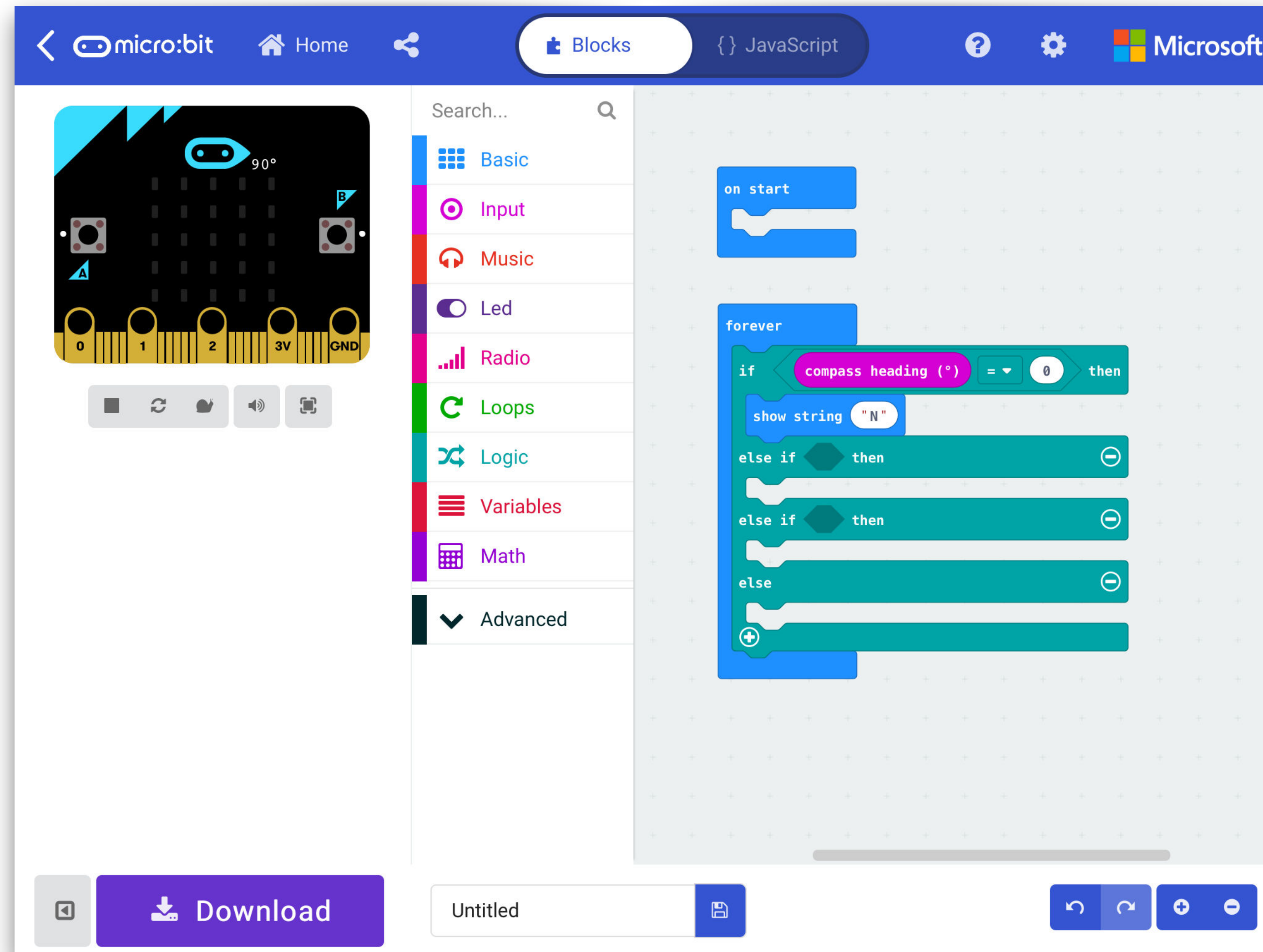
Sensor input (Compass)



The screenshot shows the Microsoft MakeCode editor interface for a micro:bit. The top navigation bar includes a back arrow, 'micro:bit', 'Home', 'Blocks', 'JavaScript', a help icon, a settings gear, and the Microsoft logo. On the left, there is a visual representation of the micro:bit board with a yellow compass icon and a '90°' label. Below the board are icons for running, refreshing, and other actions. The central panel is a block palette with a search bar and categories: Basic, Input, Music, Led, Radio, Loops, Logic, Variables, Math, and Advanced. The right panel is a workspace with a grid background, containing an 'on start' block and a 'forever' loop block. Inside the 'forever' loop is a 'show number' block with 'compass heading (°)' as its input. At the bottom, there is a 'Download' button, a file name 'Untitled', and navigation icons for undo, redo, and zoom.

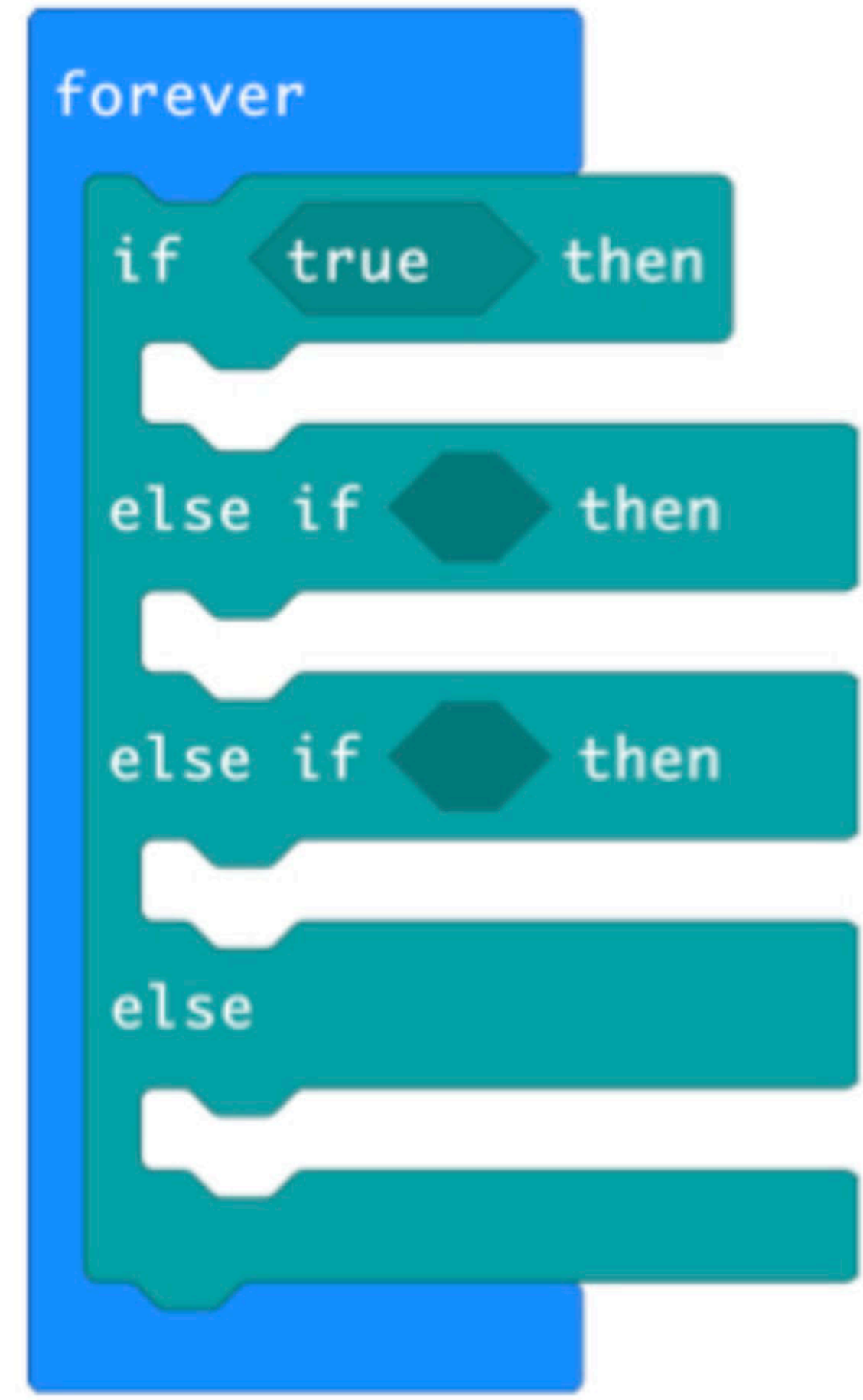
Challenge 4

Sensor input (Compass) - N/E/S/W



The screenshot displays the Microsoft MakeCode IDE for a micro:bit. The interface includes a top navigation bar with a back arrow, 'micro:bit', 'Home', 'Blocks', 'JavaScript', a help icon, a settings gear, and the Microsoft logo. On the left, a virtual micro:bit board is shown with a compass sensor icon and a '90°' heading. Below the board are icons for running, refreshing, and other actions. A central menu lists various block categories: Basic, Input, Music, Led, Radio, Loops, Logic, Variables, Math, and Advanced. The main workspace on the right contains a script starting with 'on start' and a 'forever' loop. Inside the loop, there is an 'if' statement: 'if compass heading (°) = 0 then show string \"N\"'. Below this are three 'else if' blocks and one 'else' block, all currently empty. At the bottom, there is a 'Download' button, a file name 'Untitled', and navigation controls.

Compass Code Guide



Compass Code Guide

```
forever
  if compass heading (°) = 0 then
    show string "N"
  else if then
  else if then
  else
  +
```


Compass Code Guide

```
forever
  if compass heading (°) = 0 then
    show string "N"
  else if compass heading (°) = 90 then
    show string "E"
  else if 
  else
  +
```

Compass Code Guide

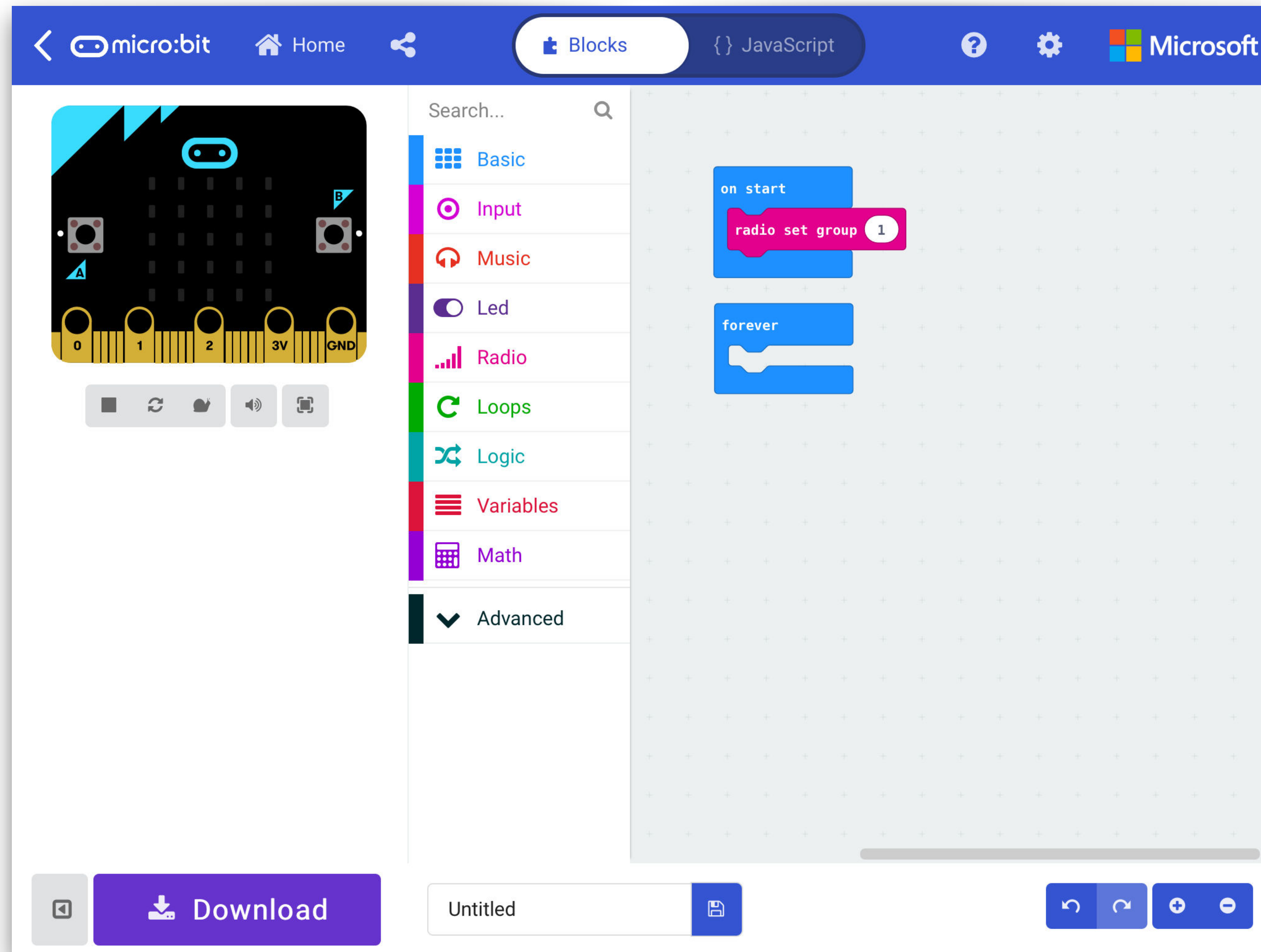
```
forever
  if compass heading (°) = 0 then
    show string "N"
  else if compass heading (°) = 90 then
    show string "E"
  else if compass heading (°) = 180 then
    show string "S"
  else
```

Compass Code Guide

```
forever
  if compass heading (^) = 0 then
    show string "N"
  else if compass heading (^) = 90 then
    show string "E"
  else if compass heading (^) = 180 then
    show string "S"
  else if compass heading (^) = 270 then
    show string "W"
  else
    show leds
    [ 5x5 grid with center LED lit ]
```


Challenge 5

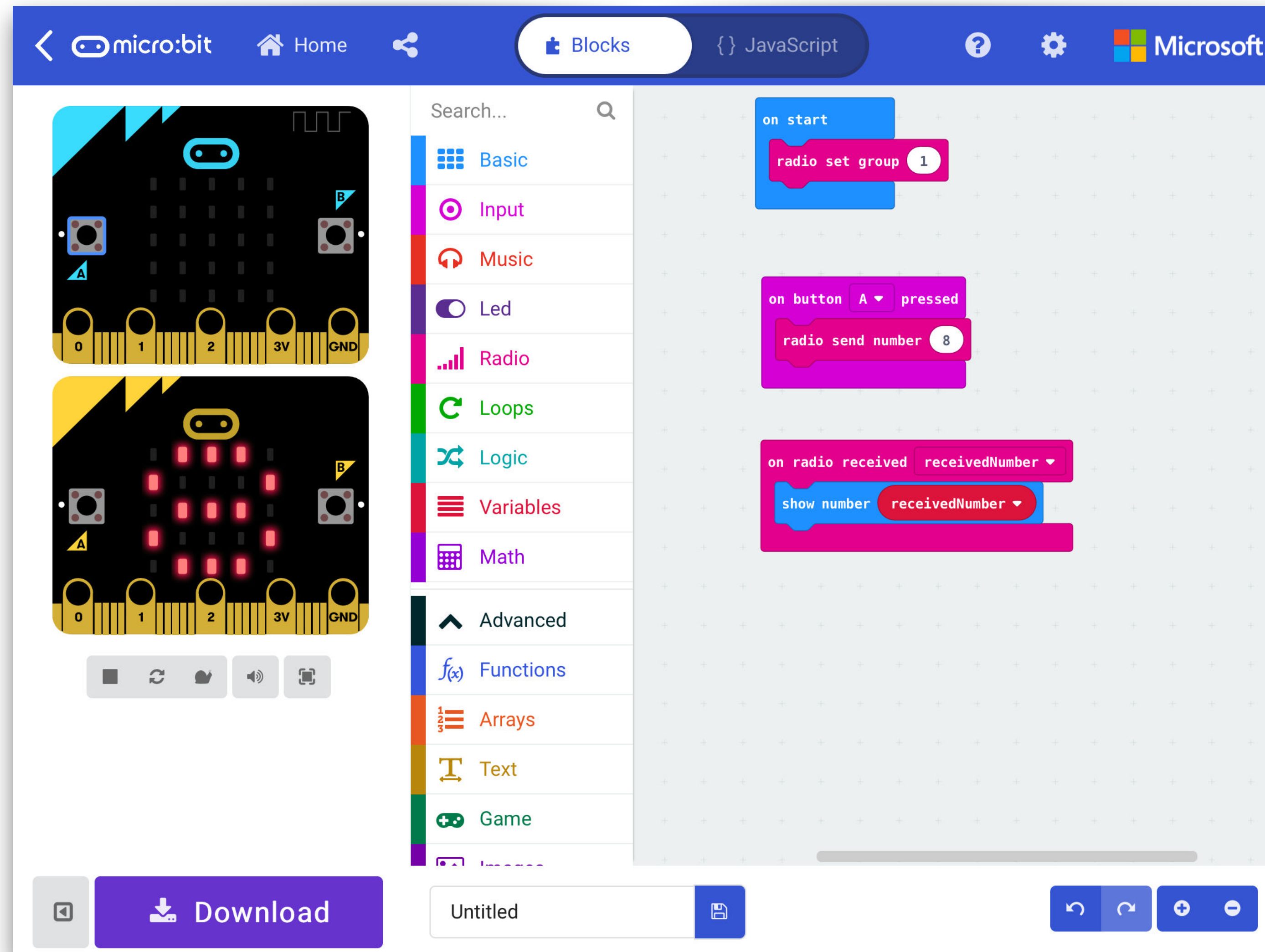
Radio communication (Groups)



The screenshot shows the Microsoft MakeCode editor interface for a micro:bit. The top navigation bar includes a back arrow, 'micro:bit', 'Home', 'Blocks', 'JavaScript', a help icon, a settings icon, and the Microsoft logo. On the left, there is a visual representation of the micro:bit board with pins labeled 0, 1, 2, 3V, and GND. Below the board are icons for running, refreshing, undo, redo, and a share icon. The central panel is a block palette with a search bar and categories: Basic, Input, Music, Led, Radio, Loops, Logic, Variables, Math, and Advanced. The right panel is a workspace with a grid background, containing the following code blocks: an 'on start' block with a 'radio set group' block set to '1', and a 'forever' loop block. At the bottom, there is a 'Download' button, a file name field containing 'Untitled', and navigation icons for undo, redo, and zoom.

Challenge 5

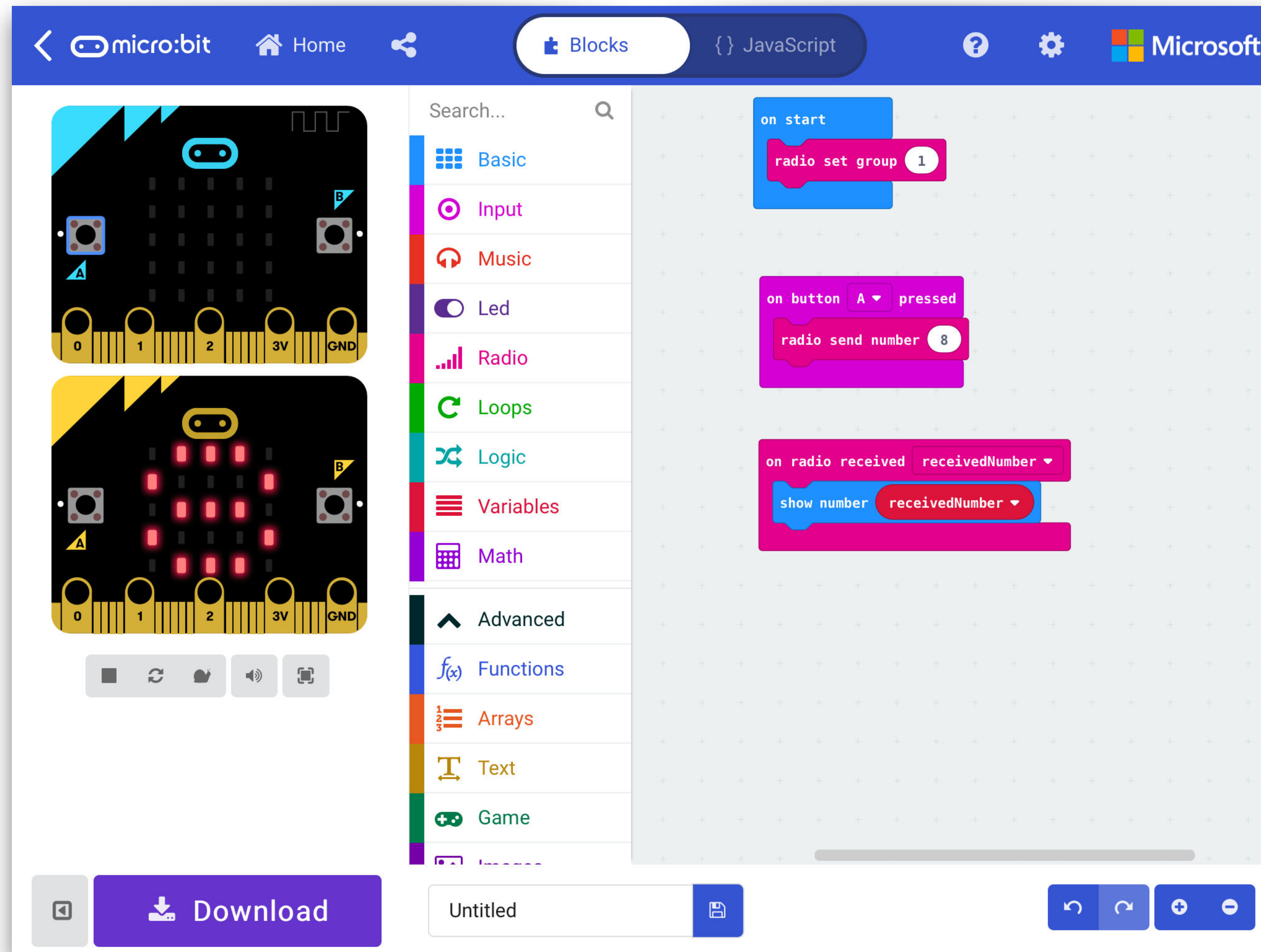
Radio communication



The screenshot displays the Microsoft MakeCode editor interface for a micro:bit project. The top navigation bar includes a back arrow, 'micro:bit', 'Home', 'Blocks', and 'JavaScript' tabs, along with a help icon, a settings gear, and the Microsoft logo. The left sidebar features a search bar and a list of categories: Basic, Input, Music, Led, Radio, Loops, Logic, Variables, Math, Advanced, Functions, Arrays, Text, and Game. The main workspace shows three code blocks: an 'on start' block containing a 'radio set group 1' block, an 'on button A pressed' block containing a 'radio send number 8' block, and an 'on radio received receivedNumber' block containing a 'show number receivedNumber' block. The bottom bar includes a 'Download' button, a file name 'Untitled', and navigation icons for undo, redo, and zoom.

Challenge 5

Radio communication - Respond with a sound



The screenshot displays the Microsoft MakeCode editor for a micro:bit. The interface includes a top navigation bar with 'micro:bit', 'Home', 'Blocks', and 'JavaScript' tabs. On the left, there are two visual representations of the micro:bit: the top one is dark with a blue radio icon, and the bottom one is dark with a grid of red LEDs. A central block palette lists categories like Basic, Input, Music, Led, Radio, Loops, Logic, Variables, Math, Advanced, Functions, Arrays, Text, and Game. The main workspace contains three blocks: 'on start' with 'radio set group 1', 'on button A pressed' with 'radio send number 8', and 'on radio received receivedNumber' with 'show number receivedNumber'. At the bottom, there is a 'Download' button, a file name 'Untitled', and navigation controls.



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