

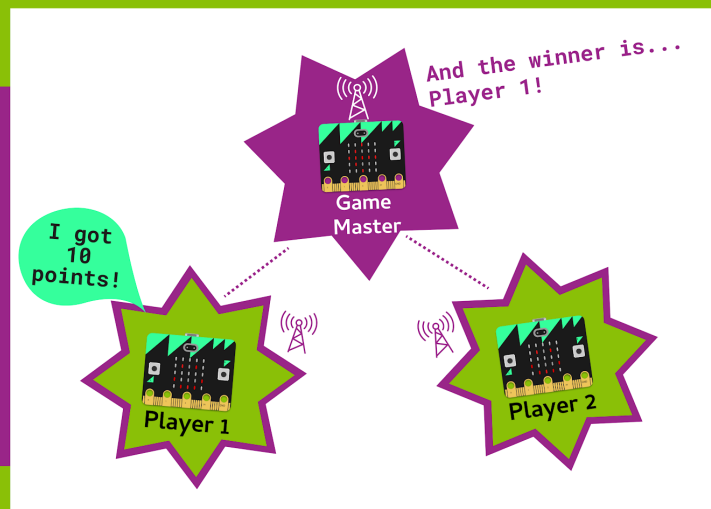
Extension: Race Your Friends

Want to play Bop It with friends?

We'll race our friend to 10 points!

The game master will get our games to start at the same time and wait to hear who gets 10 points first.

Our games will run just like before! But will talk to the Game Master at the start and finish!



Learning about Radio

We'll need to know how to use the radio for this extension. Here's some commands:

Action	Code
Set the channel, we set it to 6.	<code>radio.config(group=6)</code>
Turn the radio on	<code>radio.on()</code>
Send a message, we sent "bop"	<code>radio.send("bop")</code>
Receive a message, check if it matches "bop"	<code>if radio.receive() == "bop":</code>

Part 1

Give your game radio



Make your game start when the Game Master says to via radio. Radio back when you get 10 points!

Each players Microbit will still run its own game and generate it's own moves.

Part 2

Make a Game Master

Create a Game Master microbit. It will use radio to tell the players when to start their games.

It will wait until it hears back from the first player to get 10 points to announce the winner.



Part 1: Give your game radio



We'll make our Bop It multiplayer compatible with radio!

It will:

- wait for a start game message from the Game Master.
- Radio back to the Game Master if it gets 10 points.
- Still chose all it's own moves and keep track of it's own points.

Task 1.1: Find some friends!

For this section you will need to work in **groups!** So make a group of **at least two people!**

One person will need to be the **game master (skip to Part 2 code)** and the other people will be the **players.**

The players will not be able to play until the game master tells them to!

Task 1.2: Configure the Radio

We need to configure the radio to start off with

1. At the top of your program, `import radio.`
2. After the target image is displayed, turn the radio on with `radio.on()`
3. Then configure the radio's group with `radio.config(group=100)`. Your room coordinator will tell you what group number to use.

Task 1.3: Ready, Set, Go!

Make the Micro:Bit wait until it's been told to start!

1. Before your main game **while** loop, add a new **while** loop that waits for the radio incoming message **"start"**.
2. Inside the **while** loop, add a **pass** statement.

Hint - Radio Messages

You can read the message that the radio has received with the following code:

```
incoming = radio.receive()
```

Task 1.4: Game over!

Send a message to the game master when you've reached 10 points!

1. Update your main game **while** loop so it only runs if the score is less than 10.
2. At the end of your code, and outside of the main game while loop, send the player's name via the radio!

Hint - Radio Send

You can send a message using the radio with the following code:

```
radio.send("Rama won!")
```

You will need your friend to set up their game master to actually test this code!

✓ CHECKPOINT ✓

If you can tick all of these off you have finished this Extension:

- ☐ You have configured your radio using the group number the room coordinator gave you.
- ☐ The game doesn't start until the game master says start!
- ☐ When you have reached 10 points, the player's name is sent to the game master.