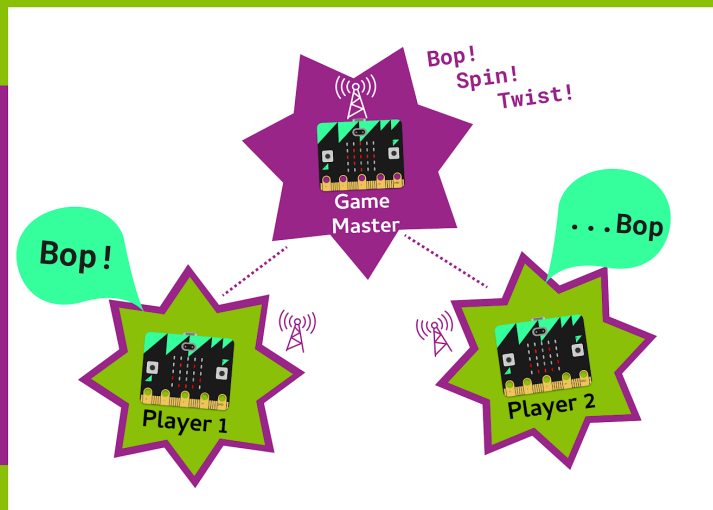# Extension: Bop Battle

Battle your friends for every Bop It point!

Be the first to do the action to get the point!

The Game Master will decide the moves and tell them to each player via radio.

Race to be the first to do the action and radio message the Game Master to score!

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.	`radio.config(channel=6)`
Turn the radio on	`radio.on()`
Send a message, we sent "bop"	`radio.send("bop")`
Receive a message, check if it matches "bop"	`if radio.receive() == "bop":`

Part 1
Getting actions via radio

Create a player Microbit to compete in the multiplayer game!

It receives actions from the Game Master via radio and sends your name back to score when it's completed actions!

Part 2
All powerful Game Master

Create a Game Master microbit. It will use radio to tell the players an action to complete.

It will wait until it hears back from the first player to get complete the action to announce the winner!

Part 1: Getting actions via radio

Bop!
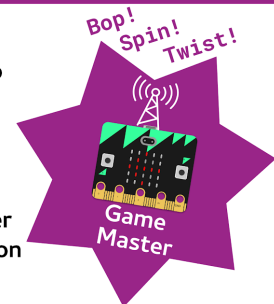
Player 1

Make our game multiplayer by adding radio to get actions to compete over!

It will:
- wait to receive an action message from the Game Master.
- Radio back to the Game Master to complete the action and win the point!

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!

Now, we're going to receive the action from the game master!
1. Find where you first set the `action` randomly. It should be above your `while` loop. `Comment` out this line!
2. Inside the game loop, change the `action` variable so it has the value of the incoming radio message.

Hint - Receiving messages

You can receive messages via radio using:
```
incoming = radio.receive()
```

Task 1.4: Run only once!

We're only competing for each individual point. So when we have a score of 1, the game should end.

Update the `while` loop so it only runs while the `score` is equal to `0`.

Task 1.5: Send the winner!

Now, tell the game master you've won!

Outside the while loop, at the end of the program, send a message to the game master saying your name!

Hint - Sending messages

You can send messages via radio using:
```
radio.send("My message")
```

☑ CHECKPOINT ☑

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

☐ You have the radio configured

☐ You receive the action from the game master

☐ You send your name to the game master when you have won a
  point

★ CHALLENGE 1.5: More than one move ★

We've shown you how to do this for 1 move! Now it's your turn to do the rest!

Figure out how to make this work so the game keeps playing for many turns.

Feel free to change the whole structure of the code, there are so many ways to create your own solution!