C3

Coding with MakeCode

CHAPTER ASSIGNMENT

Name _____ Class _____ No. _____ Date _____

> Answer every question in the space given. Show your working. You may use the chapter page to help you.

Questions from the Guru Jazzy micro:bit chapter page.

Labs from the chapter

Lab 3.1 Prepare MakeCode for offline use

A busy school network can be slow, and this lets MakeCode keep working. You need the internet once.

1. Open makecode.microbit.org in Chrome or Edge.
2. Start a project. Under **Advanced**, click **Extensions**. The book calls this “Add Package”.
3. Choose **neopixel**, for programmable RGB LEDs, and wait for it to load.
4. Bookmark the page. After this, the bookmark opens MakeCode even without the internet.

Lab 3.2 Connect the Micro:bit

1. Use a micro USB **data** cable. Some cables only charge. The yellow LED on the back lights.
2. Wait a moment. A drive called **MICROBIT** appears, like a USB flash drive.

Lab 3.3 A beating heart

1. Click **New Project**. Every project starts with two blocks: **on start** runs once at the start, and **forever** repeats without end.
2. We do not need on start, so drag it back to the menu on the left and drop it on the bin.
3. From **Basic**, put **show icon** inside forever and pick the big heart.
4. Add **pause (ms)** and set it to 100, which is 0.1 seconds.
5. Add another **show icon** and pick the small heart.
6. Name the project **Start** and click **Download**.
7. Copy the **.hex** file to the MICROBIT drive.
8. The yellow LED flashes while the file copies. When it stops, your code runs.

Lab 3.4 Build the array

1. In **on start**, add **set variable to** and name the variable **letters**.
2. From **Advanced › Arrays**, drop in an array of text.
3. Click **+** on the array until there are 26 slots, then type A to Z.
4. In **forever**, add **for index from 0 to 25**.
5. Inside the loop, add **show string** with **letters get value at index**, then **pause (ms) 1000**.

Activity · Make it yours

1. Change the text in Example 1 to your own name.

2. Change the pause in the heart program to 500, then 0. What changes?

3. Use **show leds** to draw your own picture for button B.

4. Challenge: build a dice with **on shake** and **pick random 1 to 6**.

Check yourself

1. When do the blocks inside on start run?
   A) Once, when the program starts B) Again and again for ever
   C) Only when you press A D) Never

2. When do the blocks inside forever run?
   A) Once only B) Over and over without stopping C) Only after a pause
   D) Only when the board is shaken

3. pause (ms) 1000 waits for...
   A) 0.1 seconds B) 1 second C) 10 seconds D) 1000 seconds

4. How do you delete a block?
   A) Drag it to the block menu on the left B) Press the reset button
   C) Double-click the Micro:bit D) Rename the project

5. On the computer, a connected Micro:bit appears as...
   A) A printer B) A drive called MICROBIT C) A web page D) A keyboard

6 The yellow LED on the back is flashing. What is happening?

A) The battery is low B) A program is being copied to the board C) The board is broken D) Bluetooth is on

7 A list has 26 letters. In a loop “for index from 0 to N”, what should N be?

A) 24 B) 25 C) 26 D) 27

8 In Example 3, what makes the code run when you press button B?

A) forever B) on start C) on button B pressed D) pause

End of assignment · Check your answers against the chapter at gurujazzy.com/subjects/microbit/chapter-3-coding-with-makecode/