

9 Set up a tone generator

1. Build the Flowcode program.
2. Connect the Switch Unit to PORT A, and create two push switches, connected to Port A0, and A1.
3. Connect the sounder to Port B, bit B0, making sure that the red wire goes to B0, and the black to 0V.
4. Configure the Loop icon, Output icons and the Delay icons as in previous programs, and set up the other components as follows:

| | |
|--------------|----------------------|
| Display name | Input switch reading |
| Variable | note |
| Port | PORT A |
| Input from | Entire Port |
| Use Masking | Select bits 0 and 1 |

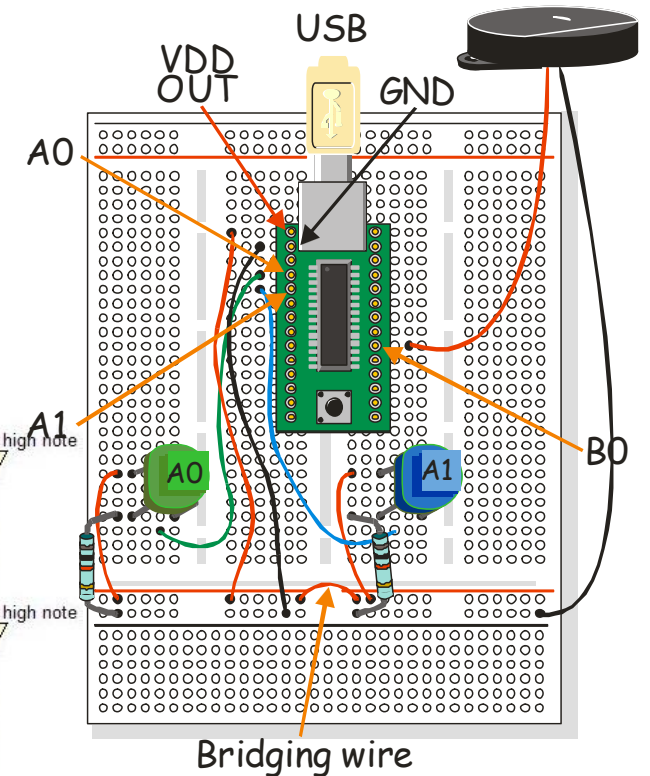
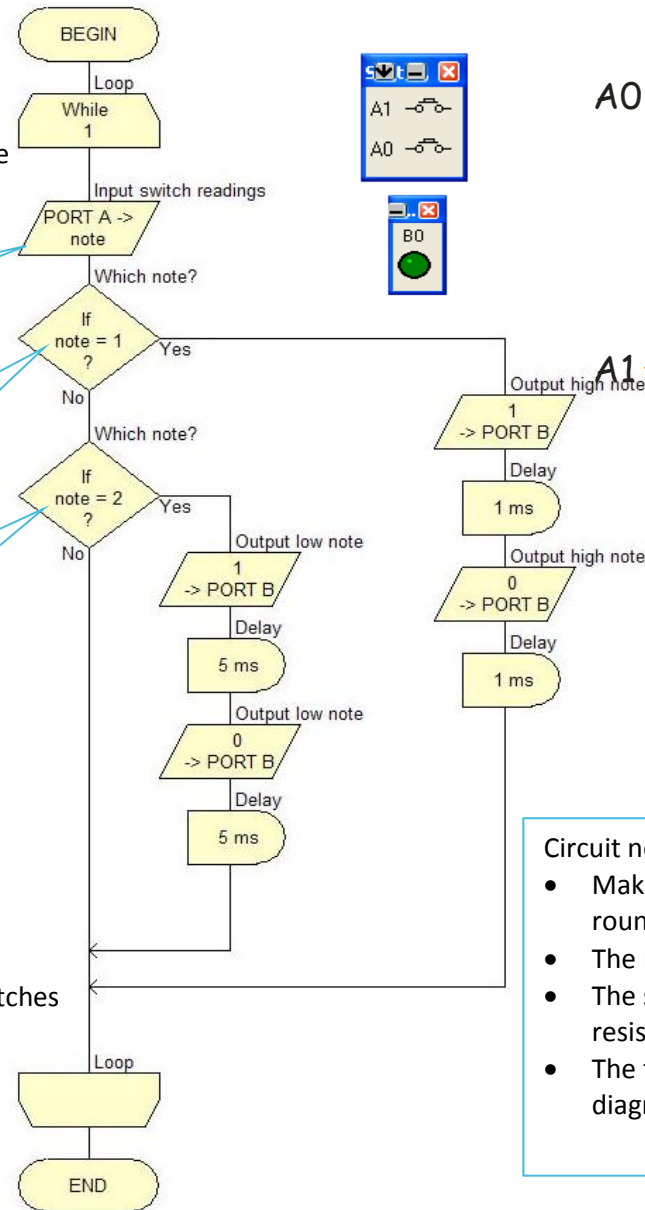
| | |
|--------------|-------------|
| Display name | Which note? |
| If | note = 1 |

| | |
|--------------|-------------|
| Display name | Which note? |
| If | note = 2 |

5. Save the Flowcode program, and then compile it to the chip.
6. Build the circuit, shown opposite, on the prototype board.
7. Test the circuit by pressing the switch A0 first, and then switch A1.

Further work:

Modify the program so that it produces a third note when both switches are pressed at the same time.



Circuit notes:

- Make sure that the LED is plugged in the right way round!
- The LED is protected by a 470Ω resistor.
- The switches form voltage dividers with the 1kΩ resistors.
- The flat edge of each switch is on the side in the diagram.