

A Morse Code Generator

Using Flea-Scope and a simple piezo buzzer between pins a7 and a8, you can trivially input strings from the user and translate them to morse code, using the program below. Enter the program below and type “save” followed by <Enter> to save it to the flash filesystem. Then type “run” followed by <Enter> to run it. You can enter strings (in lower-case) at the “?” prompt to be translated to morse code. You can change the speed of the code generation by changing the “ms” variable in line 40 -- lower numbers go faster. Or if the program is already running, you can just type <Ctrl-C> to stop the program, redefine the variable live, like “ms = 50” followed by <Enter>, and then continue the program by typing “cont” followed by <Enter>.

```
10 dim i, ms, freq, input$[79], codes[128]
20 dim gnd as pin a7 for digital output
30 dim buzzer as pin a8 for frequency output
40 ms = 100, freq = 800, gnd = 0
50 gosub init
60 while 1 do
70     input input$
80     for i = 0 to input#-1
90         gosub morse input[i]
100    next
110    print ""
120 endwhile
130 end
140 sub morse letter
150     dim code, key
160     code = codes[letter]
170     while code do
180         key = code&3
190         if key==1 then
200             buzzer = freq
210             sleep ms ms
220         elseif key==2 then
230             buzzer = freq
240             sleep 3*ms ms
250         endif
260         buzzer = 0
270         sleep ms ms
280         code = code>>2
290     endwhile
300     sleep 2*ms ms
310 endsub
320 sub init
330     dim a, b
340     do
350         read a, b
360         if a then
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370         codes[a] = b
380     endif
390 until !a
400 endsub
410 data '0', 0x2aa
420 data '1', 0x2a9
430 data '2', 0x2a5
440 data '3', 0x295
450 data '4', 0x255
460 data '5', 0x155
470 data '6', 0x156
480 data '7', 0x15a
490 data '8', 0x16a
500 data '9', 0x1aa
510 data ' ', 0xff
520 data 'a', 0x9
530 data 'b', 0x56
540 data 'c', 0x66
550 data 'd', 0x16
560 data 'e', 0x1
570 data 'f', 0x65
580 data 'g', 0x1a
590 data 'h', 0x55
600 data 'i', 0x5
610 data 'j', 0xa9
620 data 'k', 0x26
630 data 'l', 0x59
640 data 'm', 0xa
650 data 'n', 0x6
660 data 'o', 0x2a
670 data 'p', 0x69
680 data 'q', 0x9a
690 data 'r', 0x19
700 data 's', 0x15
710 data 't', 0x2
720 data 'u', 0x25
730 data 'v', 0x95
740 data 'w', 0x29
750 data 'x', 0x96
760 data 'y', 0xa6
770 data 'z', 0x5a
780 data 0, 0
```