**CS 299 Bonus Project (30 bonus points)**

US postal bar code. Encode the zip code and use Turtle to print out the barcode. Suggestions: create a module that includes at least those functions: draw for start/stop, for digit 0, for digit 1, …, for digit 9. Import the module to your main program.

The following table shows the encoding for decimal digits. Check sum is (10-sum mod 10).

|  |  |  |
| --- | --- | --- |
| **Digit** | **7 4 2 1 0** | **Barcode** |
| **0** | 1 1 0 0 0 | [POSTNET 0.svg](https://en.wikipedia.org/wiki/File:POSTNET_0.svg) |
| **1** | 0 0 0 1 1 | [POSTNET 1.svg](https://en.wikipedia.org/wiki/File:POSTNET_1.svg) |
| **2** | 0 0 1 0 1 | [POSTNET 2.svg](https://en.wikipedia.org/wiki/File:POSTNET_2.svg) |
| **3** | 0 0 1 1 0 | [POSTNET 3.svg](https://en.wikipedia.org/wiki/File:POSTNET_3.svg) |
| **4** | 0 1 0 0 1 | [POSTNET 4.svg](https://en.wikipedia.org/wiki/File:POSTNET_4.svg) |
| **5** | 0 1 0 1 0 | [POSTNET 5.svg](https://en.wikipedia.org/wiki/File:POSTNET_5.svg) |
| **6** | 0 1 1 0 0 | [POSTNET 6.svg](https://en.wikipedia.org/wiki/File:POSTNET_6.svg) |
| **7** | 1 0 0 0 1 | [POSTNET 7.svg](https://en.wikipedia.org/wiki/File:POSTNET_7.svg) |
| **8** | 1 0 0 1 0 | [POSTNET 8.svg](https://en.wikipedia.org/wiki/File:POSTNET_8.svg) |
| **9** | 1 0 1 0 0 | [POSTNET 9.svg](https://en.wikipedia.org/wiki/File:POSTNET_9.svg) |
| **Start/Stop** | − − − − 1 | [POSTNET BAR.svg](https://en.wikipedia.org/wiki/File:POSTNET_BAR.svg) |

Example:

The ZIP+4 of **55555-1237** yields a check digit of **2** for encoded data of **5555512372**  
Together with the initial and terminal frame bars, this would be represented as:

[POSTNET BAR.svg](https://en.wikipedia.org/wiki/File:POSTNET_BAR.svg)[POSTNET 5.svgPOSTNET 5.svgPOSTNET 5.svgPOSTNET 5.svgPOSTNET 5.svg](https://en.wikipedia.org/wiki/File:POSTNET_5.svg)[POSTNET 1.svg](https://en.wikipedia.org/wiki/File:POSTNET_1.svg)[POSTNET 2.svg](https://en.wikipedia.org/wiki/File:POSTNET_2.svg)[POSTNET 3.svg](https://en.wikipedia.org/wiki/File:POSTNET_3.svg)[POSTNET 7.svg](https://en.wikipedia.org/wiki/File:POSTNET_7.svg)[POSTNET 2.svg](https://en.wikipedia.org/wiki/File:POSTNET_2.svg)[POSTNET BAR.png](https://en.wikipedia.org/wiki/File:POSTNET_BAR.png)

Testing: print out the barcode for: 55555-1237 91768-1234 20500-0000

**Submission instruction:**

Demo program to instructor.