

EE393

HW3

The aim of this homework is to develop a Python program to read a single 12-digit or 13-digit barcode from the user and determine if the inputted barcode is a valid one or not.

Program will follow this logic:

- Barcode is inputted from the console
- If the input is not a valid barcode, your program must give appropriate outputs and then terminate (see below).
- If the barcode is a valid one, your program must give appropriate outputs and then terminate (see below).

Rules:

- Use try-except to catch exceptions. If you do not use, there will be -15pts penalty
 - Use proper commenting. If not, up to -10 pts penalty
 - Write two functions; one for determining if a barcode is a valid one; and the other to print the status of the barcode: The statuses are one of the followings:
 - o Barcode is a valid 12-digit barcode,
 - o Barcode is a valid 13-digit barcode, iii)Invalid barcode format (invalid chars in the barcode or barcode length is incorrect),
 - o Invalid barcode (checksum value is incorrect)
- (Up to -100 pts penalty)
- o Put these functions in a library (barcode.py); and import it in your main program – (Up to 30 pts penalty)
 - o In your main python program, use barcode library to carry out the tasks

In return:

- Submit your main python program and barcode library file via LMS on or before the due date.

In the following two pages, the rules to determine the last digit of 12 and 13-digit barcodes are given.

12 Digit Barcode

Separate!

7 5 3 1 8 2 9 5 3 4 2

Operate!

Remember that this algorithm uses modulo 10, so we are only interested in the number in the one's column.

$$5 + 1 + 2 + 5 + 4 = 17$$

$$7 + 3 + 8 + 9 + 3 + 2 = 32$$

Calculate!

$$3 \times 2 = 6$$

$$6 + 7 = 13$$

$$\square + 3 = 10$$

$$\square = 7$$

13 Digit Barcode

Separate!

9 4 0 0 5 4 7 0 0 9 8 7 ☐

Operate!

Remember that this algorithm uses modulo 10, so we are only interested in the number in the one's column.

$$9 + 0 + 5 + 7 + 0 + 8 = 29$$

$$4 + 0 + 4 + 0 + 9 + 7 = 24$$

Calculate!

$$3 \times 4 = 12$$

$$2 + 9 = 11$$

$$\square + 1 = 10$$

$$\square = 9$$