Python Practical

Deadline for submission: 9th November 2021, 5pm

Q1 The ISBN-10 verification process is used to validate book identification numbers. These normally contain dashes
and look like: 3-598-21508-8
The ISBN-10 format is 9 digits (0 to 9) plus one check character (either a digit or an X only). In the case the check
character is an X, this represents the value '10'. These may be communicated with or without hyphens, and can
be checked for their validity by the following formula:

(x1 * 10 + x2 * 9 + x3 * 8 + x4 * 7 + x5 * 6 + x6 * 5 + x7 * 4 + x8 * 3 + x9 * 2 + x10 * 1) mod 11 == 0
If the result is 0, then it is a valid ISBN-10, otherwise it is invalid.
Example:
Let's take the ISBN-10 3-598-21508-8. We plug it in to the formula, and get:
(3 * 10 + 5 * 9 + 9 * 8 + 8 * 7 + 2 * 6 + 1 * 5 + 5 * 4 + 0 * 3 + 8 * 2 + 8 * 1) mod 11 == 0
Since the result is 0, this proves that our ISBN is valid.
Task:
Given a string write a program to check if the provided string is a valid ISBN-10.

Q2 Implement a menu driven program for linear search and binary search on a list of numbers entered by the user.

Q3 Display the sum of the numbers in the list, except ignore sections of numbers starting with a 6 and extending up
to the next 7 (every 6 will be followed by at least one 7).
sum67([1, 2, 2]) → 5
sum67([1, 2, 2, 6, 99, 99, 7]) → 5
sum67([1, 1, 6, 7, 2]) → 4

Q4 Implement bubble sort.