Algorithms and Data Structures - 11th Feb 2021

Note: write your solution straight in Python using the programming environment reachable by clicking on the Programmazione (programming) option on the exam.net left toolbar. Remember to choose Python as your development environment to be able to test your code.

Ex 1. Write a Python function, to be named **linear_search()**, taking, as input, a list of integer numbers **L** and an integer key **k**. The function returns the index of the last occurrence of **k** in **L**, if any. Otherwise, it returns -1.

Provide also a minimal working example where the function is tested against a non-empty input list to look for an existing element and a non-existing element.

Ex 2. Write a Python function, to be named **binary_search()**, taking, as input, a sorted list of integer numbers **L** and an integer key **k**. The function returns the index of the last occurrence of **k** in **L**, if any, using the binary search algorithm. Otherwise, it returns -1.

Provide also a minimal working example where the function is tested against a non-empty input sorted list to look for an existing element and a non-existing element.