

python3 student_no.py # takes inputs from the terminal and displays results (if any).

python3 student_no.py<input1.txt # it takes inputs from input1.txt and displays the result in the terminal.

python3 student_no.py<input1.txt>myoutput.txt # it takes the inputs from input1.txt and creates the myoutput.txt document and writes the result here.

diff output1.txt myoutput.txt # compares the document output1.txt with the document myoutput.txt.

diff --ignore-all-space output1.txt myoutput.txt # compares the document output1.txt with the document myoutput.txt without ignoring the spaces.

QUESTION 1

Given a list of integers, find the **longest increasing subsequence (LIS)**. An increasing subsequence is a subsequence of the list where **each element** is strictly **greater than** the one **before** it. If there are **multiple subsequences** of the **same length**, return the **first one**.

Note: It is mandatory to use a function.

<u>Input1</u>	<u>Input2</u>
[1, 11, 2, 10, 4, 5, 2, 1]	[3, 10, 2, 1, 20]

<u>Output 1</u>	<u>Output 2</u>
[1, 2, 4, 5]	[3, 10, 20]