STRUKTUR DATA
Lab Exercise I

Complete each question below with the resulting output.

1. Write a program that stores data in the table below using an **array of structs**. The program **must also be able to search for data based on student NIM**. You can use Linear Search or Binary Search.

NIM	Nama	IPK
19006	Matthew	3.15
19004	Brad	2.94
19003	Anthony	2.78
19007	Gillian	3.37
19005	Susan	2.93
19001	Miya	3.01
19008	Alice	3.56
19002	Ralf	3.44

2. Read about Bead Sort and briefly explain about how it works as well as write a C++ program to sort an array of positive integers using the Bead sort algorithm.

3. Read about Insertion Sort and briefly explain about how it works as well as write a C++ program to sort an array of elements using the Bead sort algorithm.

4. Enhanced Bubble Sort:
   Make the following simple modifications to improve the performance of the bubble sort: After the first pass, the largest number is guaranteed to be in the highest-numbered element of the vector; after the second pass, the two highest numbers are "in place"; and so on. Instead of making nine comparisons (for a 10-element vector) on every pass, modify the bubble sort to make only the eight necessary comparisons on the second pass, seven on the third pass, and so on.