

SYMBIOSIS INSTITUTE OF TECHNOLOGY, PUNE

Constituent of Symbiosis International (Deemed University), Pune

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| **Assignment No.: 06** | |
| Course Name | Programming in C Lab |
| Name of Student | Faheemuddin Sayyed |
| PRN No. | 23070122196 |
| Branch | CSE |
| Class | C-1 |
| Academic Year & Semester | 2023-2024 & Semester 2 |
| Date of Performance | 16/02/2024 |
| Assignment Title (Full): | Write a C program of binary search for a user-given element in a set of ‘n’ numbers. |
| Theory:(Note: According to the assignment title, please write the background information as an introduction, then write the steps/logic/process/algorithm of the C program in the Journal Notebook, and add its screenshot in the below theory response.) | |
| **Theory Response:**   1. Accept the size of the array (size) and allocate memory dynamically. 2. Input sorted elements into the array. 3. Accept the element to search (x). 4. Implement a binary search function (BinarySearch) to find the index of the element in the array. 5. Display whether the element is found and its index. | |
| Output:(Note: Execute the C program as per the assignment title, take an input code and output result screenshot with the date and time from your computer, and add its screenshot in the below output response.) | |
| **Output Response:** | |
| Conclusion:(Note: Write the key findings or outcome from this assignment, enlist their potential real-world applications in Journal Notebook, and add its screenshot in the below conclusion response.) | |
| **Conclusion Response:**  The C code demonstrates a binary search on a sorted array. It dynamically allocates memory for the array, takes user input for sorted elements, and performs a binary search for a specified element. The code efficiently handles memory allocation and deallocation while providing a clear and functional binary search implementation. The result informs the user about whether the element is found and, if so, at which index in the array. | |

Please note that assignment content can be readable.

**Faculty Name:**

Dr. Kanhaiya Sharma

Prof. Mahesh Arse

Prof. Sachin R. Gaikwad

Prof. Surabhi Thatte