

SYMBIOSIS INSTITUTE OF TECHNOLOGY, PUNE

Constituent of Symbiosis International (Deemed University), Pune

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| **Assignment No.: 02** | |
| 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 | 19/01/2024 |
| Assignment Title (Full): | Write a C program for the developed flowchart/algorithm and execute the same to output the possible roots for a given set of coefficients with appropriate messages. |
| 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. User Input: Get coefficients (a, b, c) for a quadratic equation from the user. 2. Calculate Discriminant (D): Compute the discriminant (D = b^2 - 4ac). 3. Check Discriminant:    * If D > 0, calculate two real and different roots using the quadratic formula.    * If D = 0, calculate two real and identical roots.    * If D < 0, calculate two complex roots. 4. Display Results: Print the type of roots and their values. | |
| 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:**  In conclusion, the provided C code takes user input for quadratic equation coefficients, calculates the discriminant, and determines the nature of the roots (real and different, real and identical, or complex). The program then displays the type of roots and their respective values. The code utilizes switch statements to handle different cases based on the discriminant's value. | |

Please note that assignment content can be readable.

**Faculty Name:**

Dr. Kanhaiya Sharma

Prof. Mahesh Arse

Prof. Sachin R. Gaikwad

Prof. Surabhi Thatte