**Title:**

**Submitted in partial fulfilment of the requirements**

**of the Diploma of**

**in**

# COMPUTER ENGINEERING

**by**

|  |  |
| --- | --- |
| Name | Roll.No |
| Ritesh khadiye | 23203C0007 |
| Yashraj pardhi | 23203C0008 |
| Kavya narkar | 23203C0018 |

### under the guidance of

**Prof. Imram Sayeed**



**Department of Computer Engineering**

**Vidyalankar Polytechnic**

**Wadala (E), Mumbai -37**

# (Affiliated to MSBTE)

**2021-2022**

**PART-A (About 2-3 Pages)**

**Part-A**

**Format for Micro-Project Proposal**

**For 1st to 4th Semester**

**Title of Micro Project: String and Binary Conversion Program**

1. **Brief Introduction:**

This micro-project involves creating a program that converts strings to binary and vice versa using C. The project demonstrates the use of bitwise operations, loops, and string handling functions in C. It also showcases user interaction with a simple menu-driven approach.

**2.0 Aim of the Micro Project:**

To develop a C program that provides:  
1. Conversion of strings to their binary representation.  
2. Conversion of binary sequences back to their corresponding strings.  
3. A simple and efficient user interface.

**3.0 Action Plan (Sequence and time required for major activities for 8 weeks)**

|  |  |  |  |
| --- | --- | --- | --- |
| Sr. No. | Details of Activity | Planned Start Date | Planned Finish Date |
| 1 | Understanding requirements and concepts | Date 1 | Date 1 |
| 2 | Writing the string-to-binary conversion | Date 2 | Date 2 |
| 3 | Writing the binary-to-string conversion | Date 3 | Date 3 |
| 4 | Integrating and testing the program | Date 4 | Date 4 |

**4.0 Resources Required (Such as raw material, some machining facility, software etc.)**

|  |  |  |  |
| --- | --- | --- | --- |
| Sr. No. | Name of Resource/Material | Specifications | Qty |
| 1 | Code Editor/IDE | GCC or Visual Studio | 1 |
| 2 | PC/Laptop | With C compiler | 1 |

Annexure-IA

**PART-B (Outcomes after Execution and Format for Micro-Project Report, About 6-10 Pages)**

**For 1st to 4th Semester**

**Title of Micro Project: String and Binary Conversion Program**

1. **Brief Description: (Importance of the project, in about 100 to 200 words)**

The project implements a C program to perform string-to-binary and binary-to-string conversions. Using bitwise operations ensures efficient processing, while the menu-driven interface provides simplicity for the user. The application highlights concepts like ASCII encoding and bitwise manipulation.

**Aim of Micro Project: (in about 100 to 200 words)**

To develop a user-friendly tool in C for converting strings to binary representation and vice versa, demonstrating mastery of bitwise operations, loops, and user input handling.

**3.0 Course Outcomes Integrated (Add to the earlier list if more CO’s are addressed)**

- CO1: Implementing basic C operations and file handling.  
- CO2: Demonstrating the use of bitwise operations.  
- CO3: Handling strings and dynamic input in C programs.

**4.0 Actual Procedure followed**

1. Understanding Conversion Concepts: ASCII to binary conversion using bitwise shifting. Binary to ASCII conversion by reconstructing values from bits.

2. Writing the Program: Developed the stringToBinary() function to convert characters into binary by shifting and masking bits. Implemented the binaryToString() function to interpret binary sequences into readable characters.

3. Testing: Checked the program with various inputs to ensure correct conversions. Verified error handling for incorrect binary input formats.

4. User Interface Development: Added a menu with three options for ease of use: 1. String to Binary Conversion. 2. Binary to String Conversion. 3. Exit.

5. Debugging and Optimization: Fixed bugs related to buffer overflow and input handling. Optimized the program for memory and processing efficiency.

**5.0 Actual Resources Used: (Mention the actual resources used)**

|  |  |  |  |
| --- | --- | --- | --- |
| Sr. No. | Name of Resource/Material | Specifications | Qty |
| 1 | Code Editor/IDE | GCC or Visual Studio | 1 |
| 2 | PC/Laptop | With C compiler | 1 |

**7.0 Skill Developed/Learning out of this Micro Project.**

- Understanding of ASCII and binary representations.  
- Proficiency in handling bitwise operations in C.  
- Improved debugging and optimization skills in C programming.  
- Enhanced knowledge of user interaction handling in C.

**Name of Student:Ritesh Khadiye,Yashraj Pardhi, Kavya Narkar**

**Name of Programmed: CO Semester: 3**

**Course Title: Data structures using c Code: 311301**

**Title of the Micro Project: String and Binary Conversion Program**

**Course Outcomes Achieved:** .

- CO1: Implementing basic C operations and file handling.  
- CO2: Demonstrating the use of bitwise operations.  
- CO3: Handling strings and dynamic input in C programs.

**Micro Project Evaluation Sheet**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Process Assessment** | | **Product Assessment** | | **Total Marks 10** |
| **Part-A**  **Project Proposal**  **(Mark-2)** | **Project**  **Methodology**  **(Mark-2)** | **Part-B**  **Project Report/**  **Working Model**  **(Marks-2)** | **Individual**  **Presentation/**  **Viva**  **(Marks-4)** |
|  |  |  |  |  |

**Comments/Suggestions about team work/leadership/inter-personal communication (if any)**

**----------------------------------------------------------------------------------------------------------------------------**

**----------------------------------------------------------------------------------------------------------------------------**

**Any other Comments:**

**----------------------------------------------------------------------------------------------------------------------------**

**----------------------------------------------------------------------------------------------------------------------------**

**Name and Designation of Faculty Members**

**Signature:**

**Name of Student:Ritesh Khadiye,Yashraj Pardhi, Kavya Narkar**

**Name of Programmed: CO Semester: 3**

**Course Title: Data structures using c Code: 311301**

**Title of the Micro Project: String and Binary Conversion Program**

**Course Outcomes Achieved:** .

- CO1: Implementing basic C operations and file handling.  
- CO2: Demonstrating the use of bitwise operations.  
- CO3: Handling strings and dynamic input in C programs.

**Micro Project Evaluation Sheet**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Process Assessment** | | **Product Assessment** | | **Total Marks 10** |
| **Part-A**  **Project Proposal**  **(Mark-2)** | **Project**  **Methodology**  **(Mark-2)** | **Part-B**  **Project Report/**  **Working Model**  **(Marks-2)** | **Individual**  **Presentation/**  **Viva**  **(Marks-4)** |
|  |  |  |  |  |

**Comments/Suggestions about team work/leadership/inter-personal communication (if any)**

**----------------------------------------------------------------------------------------------------------------------------**

**----------------------------------------------------------------------------------------------------------------------------**

**Any other Comments:**

**----------------------------------------------------------------------------------------------------------------------------**

**----------------------------------------------------------------------------------------------------------------------------**

**Name and Designation of Faculty Members**

**Signature:**

**Name of Student:Ritesh Khadiye,Yashraj Pardhi, Kavya Narkar**

**Name of Programmed: CO Semester: 3**

**Course Title: Data structures using c Code: 311301**

**Title of the Micro Project: String and Binary Conversion Program**

**Course Outcomes Achieved:** .

- CO1: Implementing basic C operations and file handling.  
- CO2: Demonstrating the use of bitwise operations.  
- CO3: Handling strings and dynamic input in C programs.

**Micro Project Evaluation Sheet**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Process Assessment** | | **Product Assessment** | | **Total Marks 10** |
| **Part-A**  **Project Proposal**  **(Mark-2)** | **Project**  **Methodology**  **(Mark-2)** | **Part-B**  **Project Report/**  **Working Model**  **(Marks-2)** | **Individual**  **Presentation/**  **Viva**  **(Marks-4)** |
|  |  |  |  |  |

**Comments/Suggestions about team work/leadership/inter-personal communication (if any)**

**----------------------------------------------------------------------------------------------------------------------------**

**----------------------------------------------------------------------------------------------------------------------------**

**Any other Comments:**

**----------------------------------------------------------------------------------------------------------------------------**

**----------------------------------------------------------------------------------------------------------------------------**

**Name and Designation of Faculty Members**

**Signature:**