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# Training Program on C Programming

## Course Information

| Name of Course: | Training Program on C Programming |
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| **Objective:** | After completing this course participants will be able to: • Develop a strong foundation in programming concepts and logic development. • Develop problem-solving skills through algorithmic thinking. • Understanding low-level system operations and memory management. • Serve as a stepping stone for learning more advanced languages. • Contribute to the growth of the software development industry. • Prepare individuals for roles in embedded systems and IoT development. |
| **Minimum Pre-Requisite:** | Minimum HSC/Equivalent |
| **Class Mode** | Online |
| **Used Tools** | Internet |
| **Course Duration** | 50 Hrs |
| **Course Fee** | 3500 TK. |
| **Target Group** | - |

## Course Overview:

• C Programming Overview • Data type • Decision Making • Array • String • Pointer & Abstract data structures • Function • Final Project and Review

## Modules & Hours

| Class | Hours | Details of the Course outline |
| --- | --- | --- |
| **Class 1-2** | 4 Hrs | **C Overview**: Language overview: Facts about C, what is C program? Why to use C? C environment Setup: Text Editor, The C compiler, Installation on Windows/Mac/Linux Basic Syntax: Tokens in C, Semicolons, Comments, Identifiers, Keywords White space in C, C Program Structure (Example) |
| **Class 3-5** | 6 Hrs | **Data Types**: Data Types: Integer, Floating type, Variables, Declaration, Initialization, Memory Size, Categories, Lookups, Typedef, I/O Functions, Header File, Constant and Literals Integer Operators: Arithmetic, Logical, Miscellaneous Operators. |
| **Class 6-8** | 6 Hrs | **Decision Making**: Decision Making: If if…, Else, Nested if …Else, Switch, Loops: While loop, for loop, do…while, Nested Loops, Break, continue |
| **Class 9-11** | 6 Hrs | **Array**: Array: Declaration arrays, Index of array, Initialization, accessing array elements, two dimensional arrays, initializing two dimensional arrays, accessing two-dimensional array, passing arrays as function arguments. |
| **Class 12-14** | 6 Hrs | **String**: String: Copying Strings, Concatenation strings, comparing strings, searching strings. |
| **Class 15-18** | 8 Hrs | **Pointer & Abstract data structures**: Pointer: What are pointers? How to use pointers, Null pointers, Pointer Arithmetic, incrementing a Pointer, Decrementing a Pointer, Pointer comparison Abstract data structures include: arrays, linked lists, stacks, queues, trees, and graphs. |
| **Class 19-22** | 8 Hrs | **Function**: Function: Defining a function (with example), Function Declaration, Calling a function, Function Arguments, Function call by value, Function call by reference. |
| **Class 23-25** | 6 Hrs | **Final Project and Review**: Developing a Capstone Project Integrating All Concepts |