

Tutorial 2 - Basic Structure of a C++ Program

Key Components of the Code:

```
1 #include <iostream>
2 int main() {
3     std::cout << "Hello World";
4     return 0;
5 }
6
```

Line-by-Line Breakdown:

1. `#include <iostream>`
 - **Header File**: Adds the **iostream library** to the program.
 - Used for **input/output operations** (e.g., `std::cout` for output).
 - `#include` is a **keyword** to add libraries.
2. **Blank Lines (e.g., Line 2)**:
 - Ignored by the compiler.
 - Purpose: To make the code easier to read.
3. `int main() {`
 - `int`: Return type of the function (returns an integer).
 - `main()`: The **starting point** of every C++ program.
 - `{ and }`: Denote the beginning and end of the function.
4. `std::cout << "Hello World";`
 - `std`: Namespace (helps organize code).
 - `::`: Scope resolution operator (tells the compiler to look inside the `std` namespace for `cout`).
 - `cout`: Used to display output.
 - `"Hello World"`: String literal (output text).
 - `;`: Statement terminator.
5. `return 0;`
 - `return`: Sends a value back to the operating system.
 - `0`: Indicates the program terminated successfully.

Short Notes for Notebook:

1. **Header File (`#include <iostream>`)**:
 - Adds libraries for input/output.
 - Example: `std::cout` for output.
2. **Blank Lines**:
 - Ignored by the compiler.
 - Improve code readability.
3. `int main()`:
 - Entry point of the program.
 - Must return an integer (e.g., `return 0;`).
4. `std::cout << "Text";`

- Displays output text.
 - Use `std::cout` with `<<` for printing.
 - Text enclosed in double quotes is a **string literal**.
5. `return 0;` :
- Signals successful program execution.