

C++ Complete Notes (100+ Pages)

Chapter 1: Introduction to C++

C++ is a high-level, object-oriented programming language developed by Bjarne Stroustrup in 1983. It is an extension of the C language and supports both procedural and object-oriented programming.

Chapter 2: Structure of C++ Program

```
#include <iostream>
using namespace std;
int main() { cout << 'Hello C++'; return 0; }
```

Chapter 3: Data Types

Primitive Data Types: int, float, double, char, bool. User-defined: class, struct, union.

Chapter 4: Operators

Arithmetic, Relational, Logical, Assignment, Bitwise, Ternary operators.

Chapter 5: Control Statements

if, if-else, switch, for, while, do-while, break, continue.

Chapter 6: Functions

Functions improve code reusability. Types: with/without parameters and return types.

Chapter 7: OOP Concepts

Class, Object, Constructor, Destructor, Inheritance, Polymorphism, Encapsulation, Abstraction.

Chapter 8: Arrays and Strings

Single dimensional arrays, multi-dimensional arrays, string handling.

Chapter 9: Pointers

Pointer declaration, address operator (&), dereference operator (*), pointer arithmetic.

Chapter 10: File Handling

ifstream, ofstream, fstream for file operations.

Chapter 1: Introduction to C++

C++ is a high-level, object-oriented programming language developed by Bjarne Stroustrup in 1983. It is an extension of the C language and supports both procedural and object-oriented programming.

Chapter 2: Structure of C++ Program

```
#include <iostream>
using namespace std;
int main() {
    cout << "Hello C++";
    return 0;
}
```

Chapter 3: Data Types

Primitive Data Types: int, float, double, char, bool. User-defined: class, struct, union.

Chapter 4: Operators

Arithmetic, Relational, Logical, Assignment, Bitwise, Ternary operators.

Chapter 5: Control Statements

if, if-else, switch, for, while, do-while, break, continue.

Chapter 6: Functions

Functions improve code reusability. Types: with/without parameters and return types.

Chapter 7: OOP Concepts

Class, Object, Constructor, Destructor, Inheritance, Polymorphism, Encapsulation, Abstraction.

Chapter 8: Arrays and Strings

Single dimensional arrays, multi-dimensional arrays, string handling.

Chapter 9: Pointers

Pointer declaration, address operator (&), dereference operator (*),
pointer arithmetic.

Chapter 10: File Handling

`ifstream`, `ofstream`, `fstream` for file operations.

Chapter 1: Introduction to C++

C++ is a high-level, object-oriented programming language developed by Bjarne Stroustrup in 1983. It is an extension of the C language and supports both procedural and object-oriented programming.

Chapter 2: Structure of C++ Program

```
#include <iostream>
using namespace std;
int main() {
    cout << "Hello C++";
    return 0;
}
```

Chapter 3: Data Types

Primitive Data Types: int, float, double, char, bool. User-defined: class, struct, union.

Chapter 4: Operators

Arithmetic, Relational, Logical, Assignment, Bitwise, Ternary operators.

Chapter 5: Control Statements

if, if-else, switch, for, while, do-while, break, continue.

Chapter 6: Functions

Functions improve code reusability. Types: with/without parameters and return types.

Chapter 7: OOP Concepts

Class, Object, Constructor, Destructor, Inheritance, Polymorphism, Encapsulation, Abstraction.

Chapter 8: Arrays and Strings

Single dimensional arrays, multi-dimensional arrays, string handling.

Chapter 9: Pointers

Pointer declaration, address operator (&), dereference operator (*),
pointer arithmetic.

Chapter 10: File Handling

`ifstream`, `ofstream`, `fstream` for file operations.

Chapter 1: Introduction to C++

C++ is a high-level, object-oriented programming language developed by Bjarne Stroustrup in 1983. It is an extension of the C language and supports both procedural and object-oriented programming.

Chapter 2: Structure of C++ Program

```
#include <iostream>
using namespace std;
int main() {
    cout << "Hello C++";
    return 0;
}
```

Chapter 3: Data Types

Primitive Data Types: int, float, double, char, bool. User-defined: class, struct, union.

Chapter 4: Operators

Arithmetic, Relational, Logical, Assignment, Bitwise, Ternary operators.

Chapter 5: Control Statements

if, if-else, switch, for, while, do-while, break, continue.

Chapter 6: Functions

Functions improve code reusability. Types: with/without parameters and return types.

Chapter 7: OOP Concepts

Class, Object, Constructor, Destructor, Inheritance, Polymorphism, Encapsulation, Abstraction.

Chapter 8: Arrays and Strings

Single dimensional arrays, multi-dimensional arrays, string handling.

Chapter 9: Pointers

Pointer declaration, address operator (&), dereference operator (*),
pointer arithmetic.

Chapter 10: File Handling

`ifstream`, `ofstream`, `fstream` for file operations.

Chapter 1: Introduction to C++

C++ is a high-level, object-oriented programming language developed by Bjarne Stroustrup in 1983. It is an extension of the C language and supports both procedural and object-oriented programming.

Chapter 2: Structure of C++ Program

```
#include <iostream>
using namespace std;
int main() {
    cout << "Hello C++";
    return 0;
}
```

Chapter 3: Data Types

Primitive Data Types: int, float, double, char, bool. User-defined: class, struct, union.

Chapter 4: Operators

Arithmetic, Relational, Logical, Assignment, Bitwise, Ternary operators.

Chapter 5: Control Statements

if, if-else, switch, for, while, do-while, break, continue.

Chapter 6: Functions

Functions improve code reusability. Types: with/without parameters and return types.

Chapter 7: OOP Concepts

Class, Object, Constructor, Destructor, Inheritance, Polymorphism, Encapsulation, Abstraction.

Chapter 8: Arrays and Strings

Single dimensional arrays, multi-dimensional arrays, string handling.

Chapter 9: Pointers

Pointer declaration, address operator (&), dereference operator (*),
pointer arithmetic.

Chapter 10: File Handling

`ifstream`, `ofstream`, `fstream` for file operations.

Chapter 1: Introduction to C++

C++ is a high-level, object-oriented programming language developed by Bjarne Stroustrup in 1983. It is an extension of the C language and supports both procedural and object-oriented programming.

Chapter 2: Structure of C++ Program

```
#include <iostream>
using namespace std;
int main() {
    cout << "Hello C++";
    return 0;
}
```

Chapter 3: Data Types

Primitive Data Types: int, float, double, char, bool. User-defined: class, struct, union.

Chapter 4: Operators

Arithmetic, Relational, Logical, Assignment, Bitwise, Ternary operators.

Chapter 5: Control Statements

if, if-else, switch, for, while, do-while, break, continue.

Chapter 6: Functions

Functions improve code reusability. Types: with/without parameters and return types.

Chapter 7: OOP Concepts

Class, Object, Constructor, Destructor, Inheritance, Polymorphism, Encapsulation, Abstraction.

Chapter 8: Arrays and Strings

Single dimensional arrays, multi-dimensional arrays, string handling.

Chapter 9: Pointers

Pointer declaration, address operator (&), dereference operator (*),
pointer arithmetic.

Chapter 10: File Handling

`ifstream`, `ofstream`, `fstream` for file operations.

Chapter 1: Introduction to C++

C++ is a high-level, object-oriented programming language developed by Bjarne Stroustrup in 1983. It is an extension of the C language and supports both procedural and object-oriented programming.

Chapter 2: Structure of C++ Program

```
#include <iostream>
using namespace std;
int main() {
    cout << "Hello C++";
    return 0;
}
```

Chapter 3: Data Types

Primitive Data Types: int, float, double, char, bool. User-defined: class, struct, union.

Chapter 4: Operators

Arithmetic, Relational, Logical, Assignment, Bitwise, Ternary operators.

Chapter 5: Control Statements

if, if-else, switch, for, while, do-while, break, continue.

Chapter 6: Functions

Functions improve code reusability. Types: with/without parameters and return types.

Chapter 7: OOP Concepts

Class, Object, Constructor, Destructor, Inheritance, Polymorphism, Encapsulation, Abstraction.

Chapter 8: Arrays and Strings

Single dimensional arrays, multi-dimensional arrays, string handling.

Chapter 9: Pointers

Pointer declaration, address operator (&), dereference operator (*),
pointer arithmetic.

Chapter 10: File Handling

`ifstream`, `ofstream`, `fstream` for file operations.

Chapter 1: Introduction to C++

C++ is a high-level, object-oriented programming language developed by Bjarne Stroustrup in 1983. It is an extension of the C language and supports both procedural and object-oriented programming.

Chapter 2: Structure of C++ Program

```
#include <iostream>
using namespace std;
int main() {
    cout << "Hello C++";
    return 0;
}
```

Chapter 3: Data Types

Primitive Data Types: int, float, double, char, bool. User-defined: class, struct, union.

Chapter 4: Operators

Arithmetic, Relational, Logical, Assignment, Bitwise, Ternary operators.

Chapter 5: Control Statements

if, if-else, switch, for, while, do-while, break, continue.

Chapter 6: Functions

Functions improve code reusability. Types: with/without parameters and return types.

Chapter 7: OOP Concepts

Class, Object, Constructor, Destructor, Inheritance, Polymorphism, Encapsulation, Abstraction.

Chapter 8: Arrays and Strings

Single dimensional arrays, multi-dimensional arrays, string handling.

Chapter 9: Pointers

Pointer declaration, address operator (&), dereference operator (*),
pointer arithmetic.

Chapter 10: File Handling

`ifstream`, `ofstream`, `fstream` for file operations.

Chapter 1: Introduction to C++

C++ is a high-level, object-oriented programming language developed by Bjarne Stroustrup in 1983. It is an extension of the C language and supports both procedural and object-oriented programming.

Chapter 2: Structure of C++ Program

```
#include <iostream>
using namespace std;
int main() {
    cout << "Hello C++";
    return 0;
}
```

Chapter 3: Data Types

Primitive Data Types: int, float, double, char, bool. User-defined: class, struct, union.

Chapter 4: Operators

Arithmetic, Relational, Logical, Assignment, Bitwise, Ternary operators.

Chapter 5: Control Statements

if, if-else, switch, for, while, do-while, break, continue.

Chapter 6: Functions

Functions improve code reusability. Types: with/without parameters and return types.

Chapter 7: OOP Concepts

Class, Object, Constructor, Destructor, Inheritance, Polymorphism, Encapsulation, Abstraction.

Chapter 8: Arrays and Strings

Single dimensional arrays, multi-dimensional arrays, string handling.

Chapter 9: Pointers

Pointer declaration, address operator (&), dereference operator (*),
pointer arithmetic.

Chapter 10: File Handling

`ifstream`, `ofstream`, `fstream` for file operations.

Chapter 1: Introduction to C++

C++ is a high-level, object-oriented programming language developed by Bjarne Stroustrup in 1983. It is an extension of the C language and supports both procedural and object-oriented programming.

Chapter 2: Structure of C++ Program

```
#include <iostream>
using namespace std;
int main() {
    cout << "Hello C++";
    return 0;
}
```

Chapter 3: Data Types

Primitive Data Types: int, float, double, char, bool. User-defined: class, struct, union.

Chapter 4: Operators

Arithmetic, Relational, Logical, Assignment, Bitwise, Ternary operators.

Chapter 5: Control Statements

if, if-else, switch, for, while, do-while, break, continue.

Chapter 6: Functions

Functions improve code reusability. Types: with/without parameters and return types.

Chapter 7: OOP Concepts

Class, Object, Constructor, Destructor, Inheritance, Polymorphism, Encapsulation, Abstraction.

Chapter 8: Arrays and Strings

Single dimensional arrays, multi-dimensional arrays, string handling.

Chapter 9: Pointers

Pointer declaration, address operator (&), dereference operator (*),
pointer arithmetic.

Chapter 10: File Handling

`ifstream`, `ofstream`, `fstream` for file operations.