

# 10 Lecture - CS201

## Important Subjective

1. **What is a header file?**

Answer: A header file is a file in C/C++ programming language that contains function and variable declarations, constants, and definitions needed to interface with other source code files.

2. **How is a header file included in a C/C++ program?**

Answer: A header file is included in a C/C++ program using the `#include` preprocessor directive.

3. **Why is it important to use header files in programming?**

Answer: Header files are important in programming because they provide a way to organize code and make it more modular, allowing for reuse and easier maintenance.

4. **Can a header file contain executable code?**

Answer: No, a header file cannot contain executable code. It only contains function and variable declarations, constants, and definitions.

5. **What is the purpose of a guard clause in a header file?**

Answer: The purpose of a guard clause in a header file is to prevent multiple inclusion of the same file.

6. **How does a guard clause work in a header file?**

Answer: A guard clause in a header file uses `#ifndef` and `#define` directives to check if a macro has already been defined. If it has not been defined, the code within the guard clause is executed, and the macro is defined. If it has already been defined, the code within the guard clause is skipped.

7. **What is the file extension of a header file in C/C++ programming?**

Answer: The file extension of a header file in C/C++ programming is `.h`.

8. **Can a header file be compiled separately from the rest of the program?**

Answer: Yes, a header file can be compiled separately from the rest of the program. However, it will not produce an executable program on its own.

9. **Can a header file be empty?**

Answer: Yes, a header file can be empty. However, it is not common or recommended.

10. **What is the difference between a standard library header file and a user-defined header file?**

Answer: A standard library header file is provided by the C/C++ standard library and contains declarations for functions and variables that are part of the standard library. A user-defined header file is created by the programmer and contains declarations for functions and variables specific to their program.