

# 42 Lecture - CS201

## Important Subjective

1. **What is a class template in C++?**

Answer: A class template is a generic class that can work with multiple data types.

2. **How do you declare a class template in C++?**

Answer: You declare a class template using the "template" keyword followed by the template parameter list and the class declaration.

3. **What is a template parameter in a class template?**

Answer: A template parameter is a placeholder for a data type that can be used by the class.

4. **How do you instantiate a class template in C++?**

Answer: You instantiate a class template by creating an object of the class with the desired data type as the template argument.

5. **How does template specialization work in class templates?**

Answer: Template specialization allows you to create a specialized version of the class for a specific data type or value.

6. **Can you define member functions for a class template inside the class definition?**

Answer: Yes, you can define member functions for a class template inside the class definition.

7. **How do you overload a class template in C++?**

Answer: You overload a class template by defining a new member function with the same name but different template parameters.

8. **What are the advantages of using class templates in C++?**

Answer: Class templates provide code reusability, improve code quality, and allow for generic programming and flexible data structures.

9. **What are the potential drawbacks of using class templates in C++?**

Answer: Class templates can lead to longer compilation times, can be difficult to understand for novice programmers, and can be prone to errors and bugs.

10. **Can class templates be used with user-defined data types?**

Answer: Yes, class templates can be used with user-defined data types as long as the data type is specified as a template parameter.