

# 30 Lecture - CS201

## Important Subjective

1. **What is a reference variable in C++? How is it different from a pointer?**

Answer: A reference variable in C++ is an alias to an already existing variable. It is declared using an ampersand (&) symbol. A reference variable is different from a pointer in that it cannot be null and cannot be reassigned to point to another object.

2. **Can a reference be returned from a function in C++?**

Answer: Yes, a reference can be returned from a function in C++. This can be useful in cases where we want to modify the value of an existing variable using a function.

3. **What is the purpose of using a reference as a function parameter in C++?**

Answer: Using a reference as a function parameter in C++ allows us to modify the value of the original variable that is being passed to the function, rather than just making a copy of the variable.

4. **How is a reference different from a constant reference in C++?**

Answer: A constant reference in C++ is a reference that cannot be modified. This means that any attempt to modify the value of the referenced variable will result in a compilation error.

5. **What is a reference variable in C++ used for?**

Answer: A reference variable in C++ is typically used to provide an alternative name for an existing variable. It can also be used to pass variables by reference to functions, which can be more efficient than passing by value.

6. **Can a reference be used to refer to a pointer variable in C++?**

Answer: Yes, a reference can be used to refer to a pointer variable in C++. This can be useful in cases where we want to modify the value of the pointer variable using a function.

7. **How is a reference variable initialized in C++?**

Answer: A reference variable in C++ must be initialized when it is declared. This initialization binds the reference to the variable being referenced.

8. **What is the difference between a reference and a copy in C++?**

Answer: A reference in C++ is an alias to an existing variable, while a copy is a separate instance of the variable. Modifying a reference modifies the original variable, while modifying a copy does not affect the original variable.

9. **Can a reference be used to refer to an object in C++?**

Answer: Yes, a reference can be used to refer to an object in C++. This can be useful in cases where we want to modify the value of an object using a function.

10. **What is the difference between a reference and a pointer in C++?**

Answer: A reference in C++ is an alias to an existing variable, while a pointer is a variable that stores the memory address of another variable. A reference cannot be null and cannot be reassigned to point to another object, while a pointer can be null and can be reassigned to point to another object.