Potential C++ Final Topics

the ternary operator and the switch statement

minimal/short-circuit evaluation

inheritance, access specifiers

the role of constructors/destructors in inheritance (calling order, etc)

the constructor init list (for regular variables too)

How an object can “be” multiple types at once through inheritance

polymorphism

object slicing and how you can prevent it

function overriding, virtual methods, virtual destructors

abstract or pure virtual methods

calling hidden functions using the scope resolution operator

multiple inheritance / the diamond problem / virtual inheritance

template functions and classes, and how to call/instantiate them

non-type and default template parameters

basic STL stuff - the vector class, find(), sort()

casting problems, and how dynamic_cast solves them

asserts and return codes

C++ exceptions / exception handling / nested exceptions

try/catch blocks, and what can be thrown/caught

code flow with exceptions

iostreams and using them for input / output

seeking, insertion/extraction, ignore(), getline(), error conditions, etc. within iostreams

bit twiddling in C/C++: bitwise operations, bit shifting

combining flags into a single integer and extracting them again using bitwise ops

The C language and its differences from C++

preprocessor directives - macros, include guards, etc.