

Exception Safety Solutions

Exception Safety

- What is meant by "exception safe" code?
 - Code is "exception safe" if it behaves correctly in the presence of exceptions

Exception Guarantees

- What is meant by the basic exception guarantee?
 - An operation provides the basic exception guarantee if no resources are leaked when an exception is thrown
- What is meant by the strong exception guarantee?
 - An operation provides the strong exception guarantee if the program reverts to its previous state when an exception is thrown
- What is meant by the no-throw guarantee?
 - An operation provides the no-throw guarantee if it does not throw any exceptions

Exception Guarantees

- To what extent does C++ provide these guarantees?
 - All operations on STL containers provide the strong guarantee (except for a few special cases with insert operations)
 - All built-in operators and functions provide the basic guarantee
 - C++ allows us to provide these guarantees with our own code