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FACULTY OF ENGINEERING & TECHNOLOGY

CSPS103: Object Oriented Programming

Lecture-37

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OBJECTIVES

In this lecture, you will learn to:

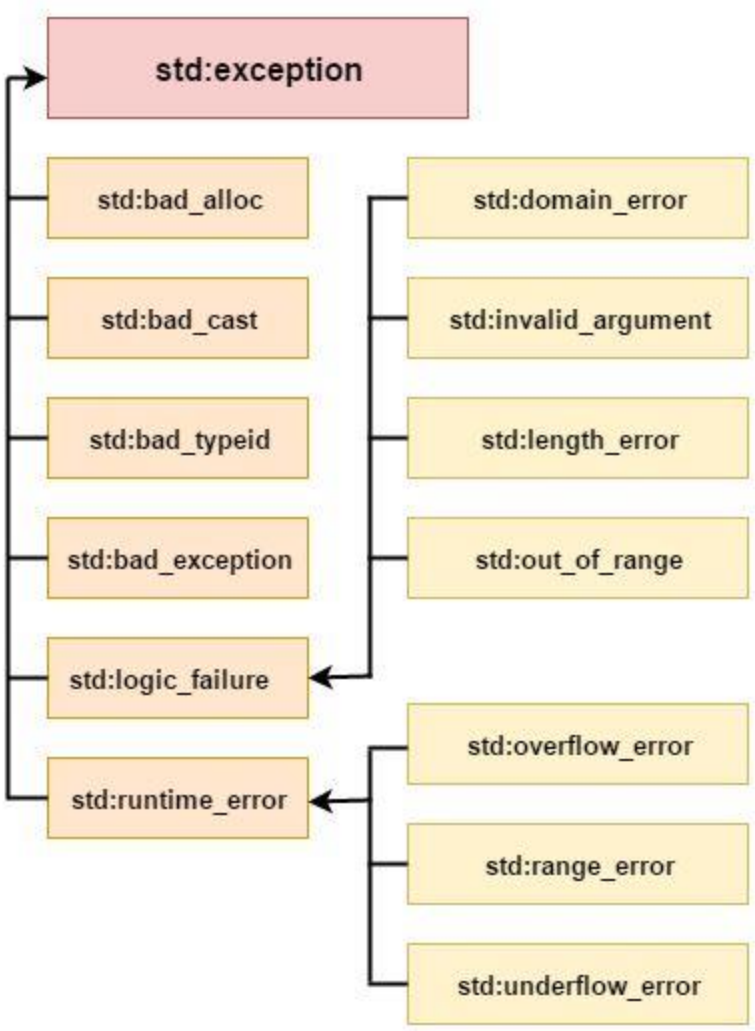
- ❖ **Exception Handling**
- ❖ **Exception Classes**
- ❖ **Advantage**

EXCEPTION HANDLING

- Exception Handling in C++ is a process to handle runtime errors.
- We perform exception handling so the normal flow of the application can be maintained even after runtime errors.
- In C++, exception is an event or object which is thrown at runtime.
- All exceptions are derived from std::exception class.
- It is a runtime error which can be handled.
- If we don't handle the exception, it prints exception message and terminates the program.

EXCEPTION CLASSES

In C++ standard exceptions are defined in <exception> class that we can use inside our programs. The arrangement of parent-child class hierarchy is shown below:



EXCEPTION CLASSES (Contd.)

All the exception classes in C++ are derived from std::exception class.

Exception	Description
std::exception	It is an exception and parent class of all standard C++ exceptions.
std::logic_failure	It is an exception that can be detected by reading a code.
std::runtime_error	It is an exception that cannot be detected by reading a code.
std::bad_exception	It is used to handle the unexpected exceptions in a c++ program.
std::bad_cast	This exception is generally be thrown by **dynamic_cast.**
std::bad_typeid	This exception is generally be thrown by **typeid.**
std::bad_alloc	This exception is generally be thrown by **new.**

ADVANTAGE

- It maintains the normal flow of the application.

- In such case, rest of the code is executed even after exception.

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Multiple Choice Question:

Q1. Which is used to handle the exceptions in c++?

a) catch handler

b) handler

c) exception handler

d) throw

Multiple Choice Question:

Q2. Which type of program is recommended to include in try block?

a) static memory allocation

b) dynamic memory allocation

c) const reference

d) pointer

Multiple Choice Question:

Q3. Which statement is used to catch all types of exceptions?

a) catch()

b) catch(Test t)

c) catch(…)

d) catch(Test)

Multiple Choice Question:

Q4. How to handle error in the destructor?

a) throwing

b) terminate

c) both throwing & terminate

d) try

Multiple Choice Question:

Q5. What kind of exceptions are available in c++?

a) handled

b) unhandled

c) static

d) dynamic

Summary

In this lecture, you learned that:

- Exception Handling in C++ is a process to handle runtime errors.
- It maintains the normal flow of the application.