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NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL)  »  Fundamentals of Object Oriented Programming (course)

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Course outline

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# Week 6: Assignment 6

**The due date for submitting this assignment has passed.**

**Due on 2025-03-05, 23:59 IST.**

# Assignment submitted on 2025-03-01, 10:23 IST

1)  What is the output of the following C++ code?                    **1 point**

```cpp
#include <iostream>
int main() {
    try {
        throw 42;
    } catch (int e) {
        std::cout << "Caught exception: " << e << std::endl;
    }
    return 0;
}
```

◉ Caught exception: 42

○ Compilation error

○ Runtime error

○ Undefined behavior

Yes, the answer is correct.
Score: 1

Accepted Answers:
*Caught exception: 42*

2)  Which of the following is a checked exception in Java?                    **1 point**

○ ArithmeticException

◉ IOException

○ NullPointerException

○ ArrayIndexOutOfBoundsException

Yes, the answer is correct.
Score: 1

Accepted Answers:
*IOException*

3)   Which of the following correctly defines a custom exception in Java?                    *1 point*

```
class MyException extends Exception {
    public MyException(String message) {
        super(message);
    }
}


public class Main {
    public static void main(String[] args) {
        try {
            throw new MyException("Custom error");
        } catch (MyException e) {
            System.out.println(e.getMessage());
        }
    }
}
```

What is the output of this program?

○ Custom error

○ Compilation error

○ No output

○ Runtime error

Yes, the answer is correct.
Score: 1

Accepted Answers:
*Custom error*

4)  Consider the following C++ code:                                                                                        *1 point*

```cpp
#include <iostream>
int main() {
    try {
        throw "An error occurred";
    } catch (const char* e) {
        std::cout << "String exception: " << e << std::endl;
    } catch (...) {
        std::cout << "Unknown exception caught" << std::endl;
    }
    return 0;
}
```

What is the output of this program?

◉ String exception: An error occurred

○ Unknown exception caught

○ Compilation error

○ No output

Yes, the answer is correct.
Score: 1

Accepted Answers:
*String exception: An error occurred*

5)  Which of the following is true about unchecked exceptions in Java?                    **1 point**

○ They must be declared in the method's throws clause.

○ They must be handled using a try-catch block.

◉ They are not checked by the compiler at compile time.

○ They do not extend Throwable.

Yes, the answer is correct.
Score: 1

Accepted Answers:
*They are not checked by the compiler at compile time.*

6)  To write a custom exception class in C++ to handle invalid age inputs, what is the correct    **1 point**
signature for the custom exception constructor?
- The class should inherit from std::exception.
- The constructor should accept a string message.
- The what() method should return the custom message.

○ InvalidAgeException(std::string msg);

◉ InvalidAgeException(const std::string& msg);

○ InvalidAgeException(char* msg);

○ All of the above.

Yes, the answer is correct.
Score: 1

Accepted Answers:
*InvalidAgeException(const std::string& msg);*

7)  Which of the following statements about the finally block in Java is true?                    **1 point**

○ It is executed only if no exception is thrown.

○ It is executed only if an exception is caught.

◉ It is executed regardless of whether an exception is thrown or caught.

○ It is executed before the catch block.

Yes, the answer is correct.
Score: 1

Accepted Answers:
*It is executed regardless of whether an exception is thrown or caught.*

8)  To write a Java program that:                                                                          **1 point**
- Reads an integer input from the user.
- Throws an ArithmeticException if the number is negative.
- Throws an IOException if the input is not a valid number.
- Catches and handles both exceptions.

Which of the following is a correct implementation?

○ Two separate catch blocks for each exception.

○ A single catch block with catch(Exception e).

○ Nested try-catch blocks.

◉ Both A and C.

Yes, the answer is correct.
Score: 1

Accepted Answers:
*Both A and C.*

9)  Consider the following situations and select the correct exception type that would be thrown      **1 point**
in the case- 'A function is called with an argument that is invalid for its operation.

◉ std::invalid argument

○ std::length error

○ std::out of range

○ std::runtime error

Yes, the answer is correct.
Score: 1

Accepted Answers:
*std::invalid argument*

10) Which of the following statements about the throws keyword in Java is correct?                    **1 point**

○
The throws keyword must be used for all exceptions, including unchecked exceptions
like NullPointerException.

◉
The throws keyword is used in the method signature to declare checked exceptions
that a method might throw, allowing the caller to handle them.

○ The throws keyword is used to catch and handle exceptions within a method.

○
The throws keyword automatically handles the exception without requiring a try-catch
block.

Yes, the answer is correct.
Score: 1

Accepted Answers:
*The throws keyword is used in the method signature to declare checked exceptions*
*that a method might throw, allowing the caller to handle them.*