# CISC 3115 TY2 Throwing and Rethrowing Exceptions

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### Outline

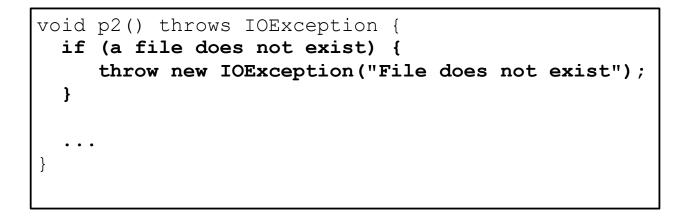
- Discussed
  - Error and error handling
    - Two approaches
  - Exception
  - The throwable class hierarchy
    - System errors and semantics
    - Runtime exceptions and semantics
    - Checked errors and semantics
  - Declaring, throwing, and catching exception
- Throwing and rethrowing exceptions

### **Throwing Checked Exceptions**

- When a method encounters a checked exception, the checked exception must be
  - declared to be thrown when declaring the method, or
  - be caught and handled.

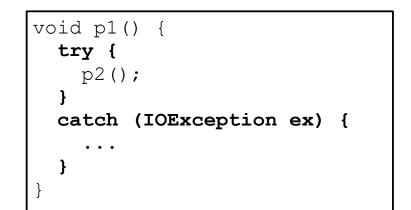
# Declaring a Checked Exception to be Thrown

- IOException is a checked exception (how do we known?)
- Example: p2 throws an IOException, a checked exception



# Caller p1() Must ...

- p2 throws an IOException, a checked exception
- p1 must catch it or throw it in its declaration.



```
void p1() throws IOException {
   p2();
}
```

(b)

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#### Questions

• Throwing checked exceptions

## **Rethrowing Exception**

try {

statements;

}

catch(TheException ex) {

perform operations before exits;

throw ex;

#### Questions?

- How to rethrow exceptions
- How to rethrow checked exceptions