CISC 3115 EWQ6
Exception and Call Stack
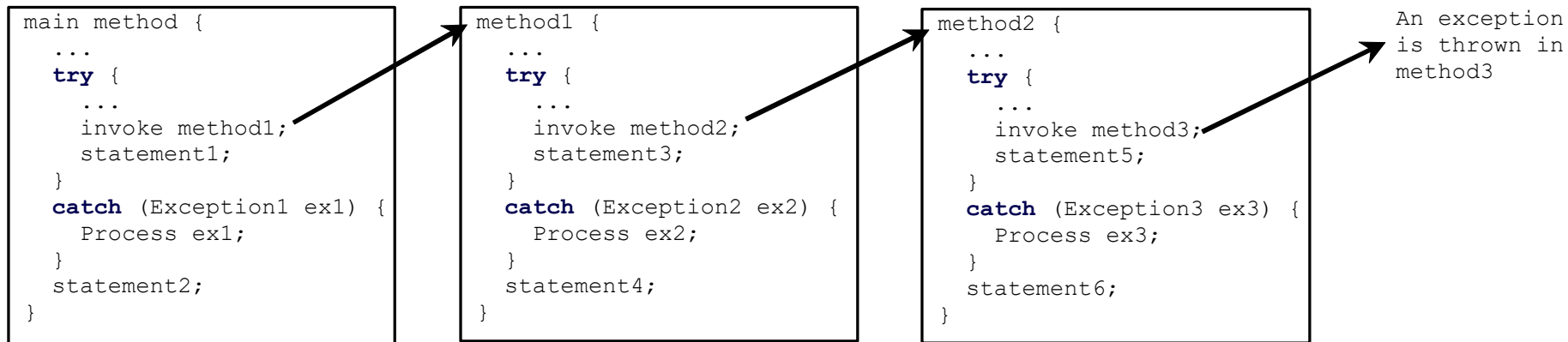
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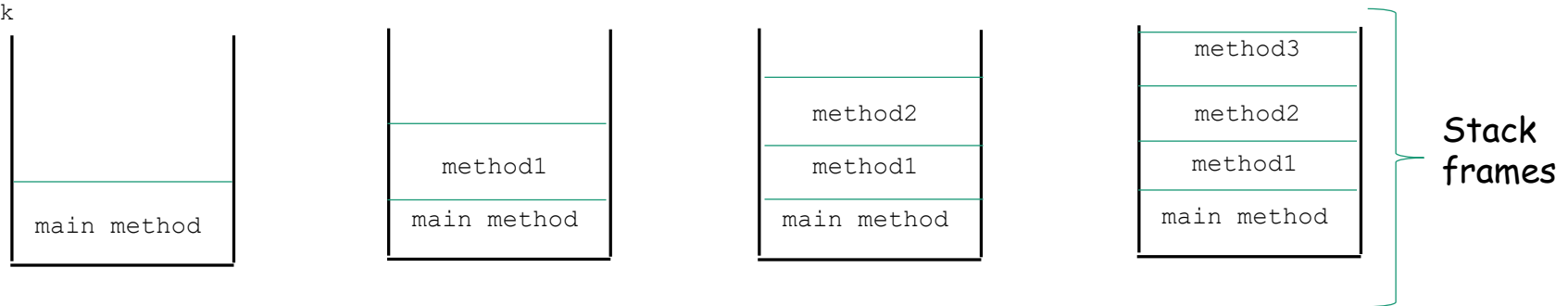
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Outline

- Discussed

  - Approaches to handle errors (what-if and exceptions)

  - Concept of Exception

  - The Java throwable class hierarchy

    - system errors, runtime exceptions, checked errors, unchecked errors

  - Methods of declaring, throwing, catching exception, and rethrowing exceptions

- Exception, call stack, stack frame, and stack trace

Exception and Call Stack

```
main method {
  ...
  try {
    ...
    invoke method1;
    statement1;
  }
  catch (Exception1 ex1) {
    Process ex1;
  }
  statement2;
}
```

```
method1 {
  ...
  try {
    ...
    invoke method2;
    statement3;
  }
  catch (Exception2 ex2) {
    Process ex2;
  }
  statement4;
}
```

```
method2 {
  ...
  try {
    ...
    invoke method3;
    statement5;
  }
  catch (Exception3 ex3) {
    Process ex3;
  }
  statement6;
}
```

An exception is thrown in method3

Call Stack

| main method |

| method1 |
| main method |

| method2 |
| method1 |
| main method |

| method3 |
| method2 |
| method1 |
| main method |

Stack frames

Example: Call Stack and Stack Trace

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Questions

- Concept of call stack and stack frame?

- Exception and stack trace?

- Local variables, method parameters, and call stack?