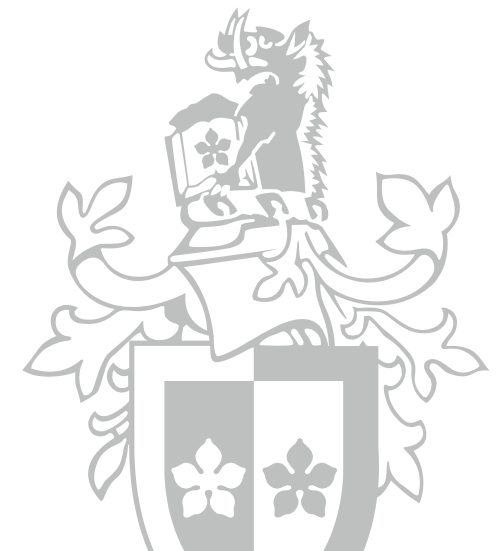


Exceptions and Errors

by Charlotte Pierce



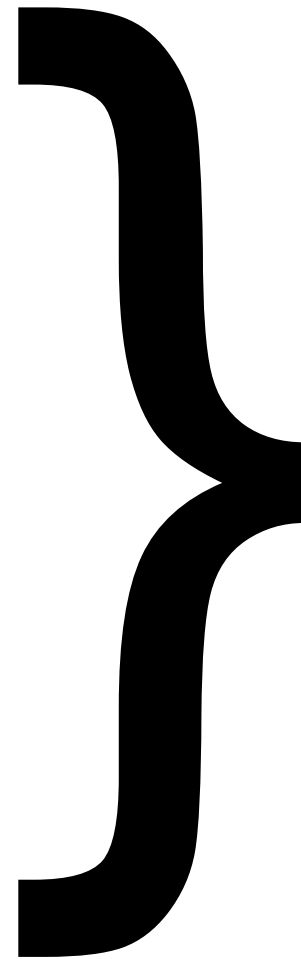
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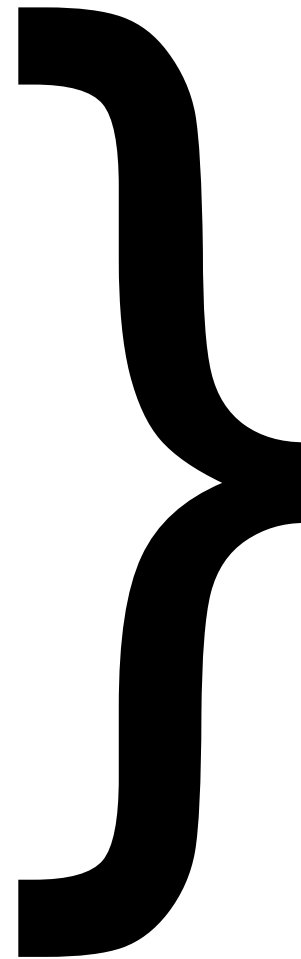
Libraries provide a wide range of useful abstractions



Class that do ...



Developers create applications, building on the available class libraries

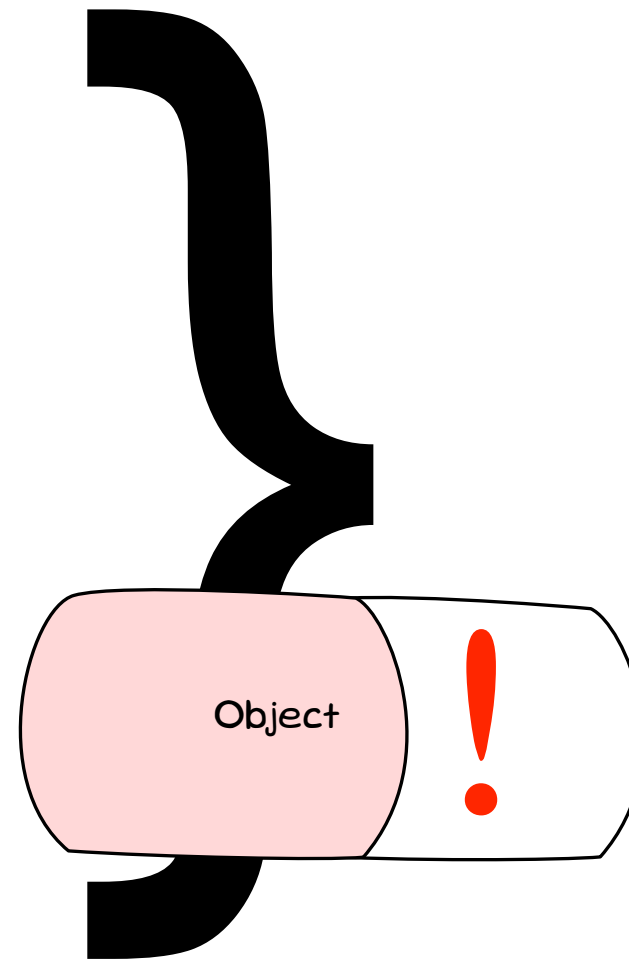


Use these classes to
help you build...

Many libraries use exceptions to report errors they encounter



To use these libraries you need to learn how to handle these exceptions

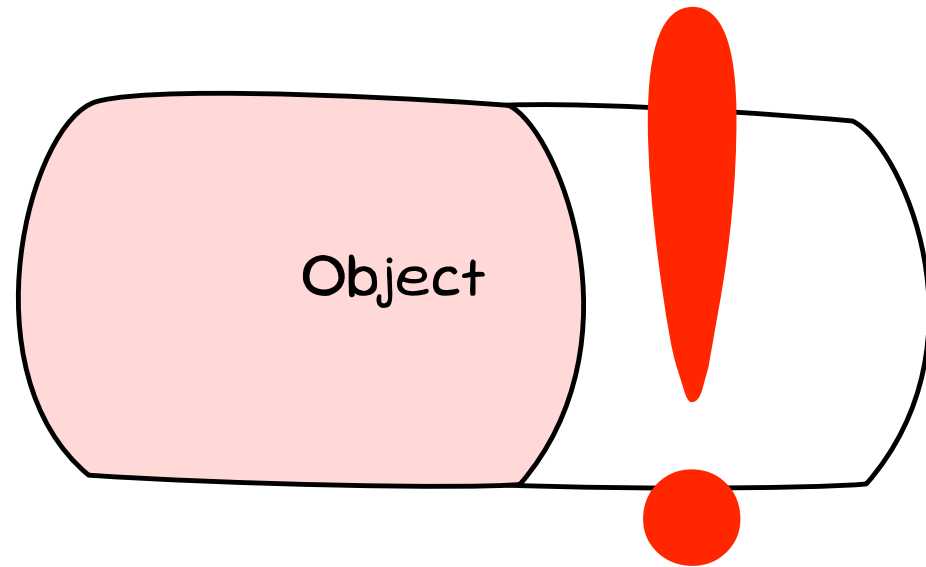


Calm down... I'm sure we can handle this...

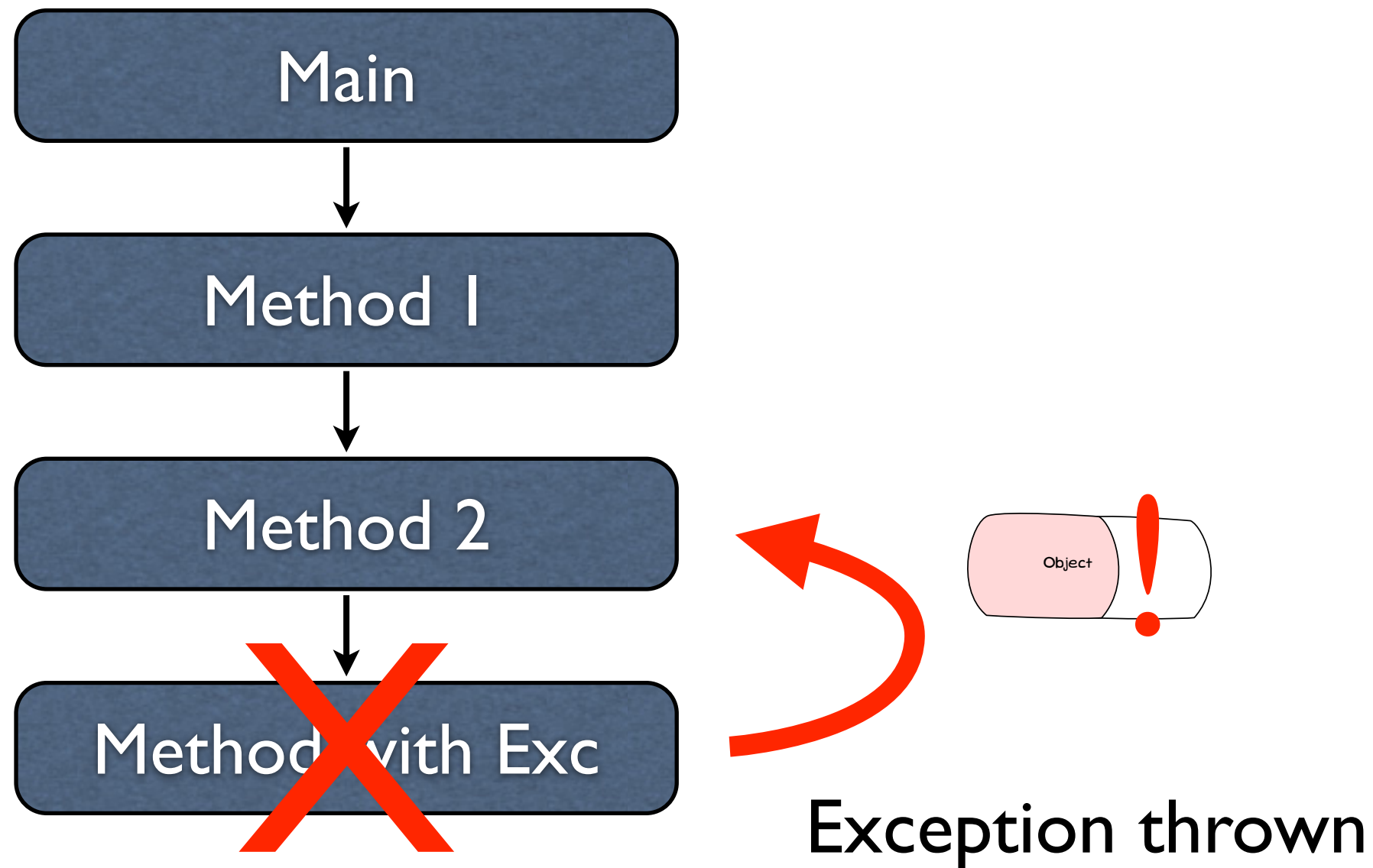
See how exceptions are used to
report errors, and when you
should use them

Exceptions provide an alternate
way of ending method calls

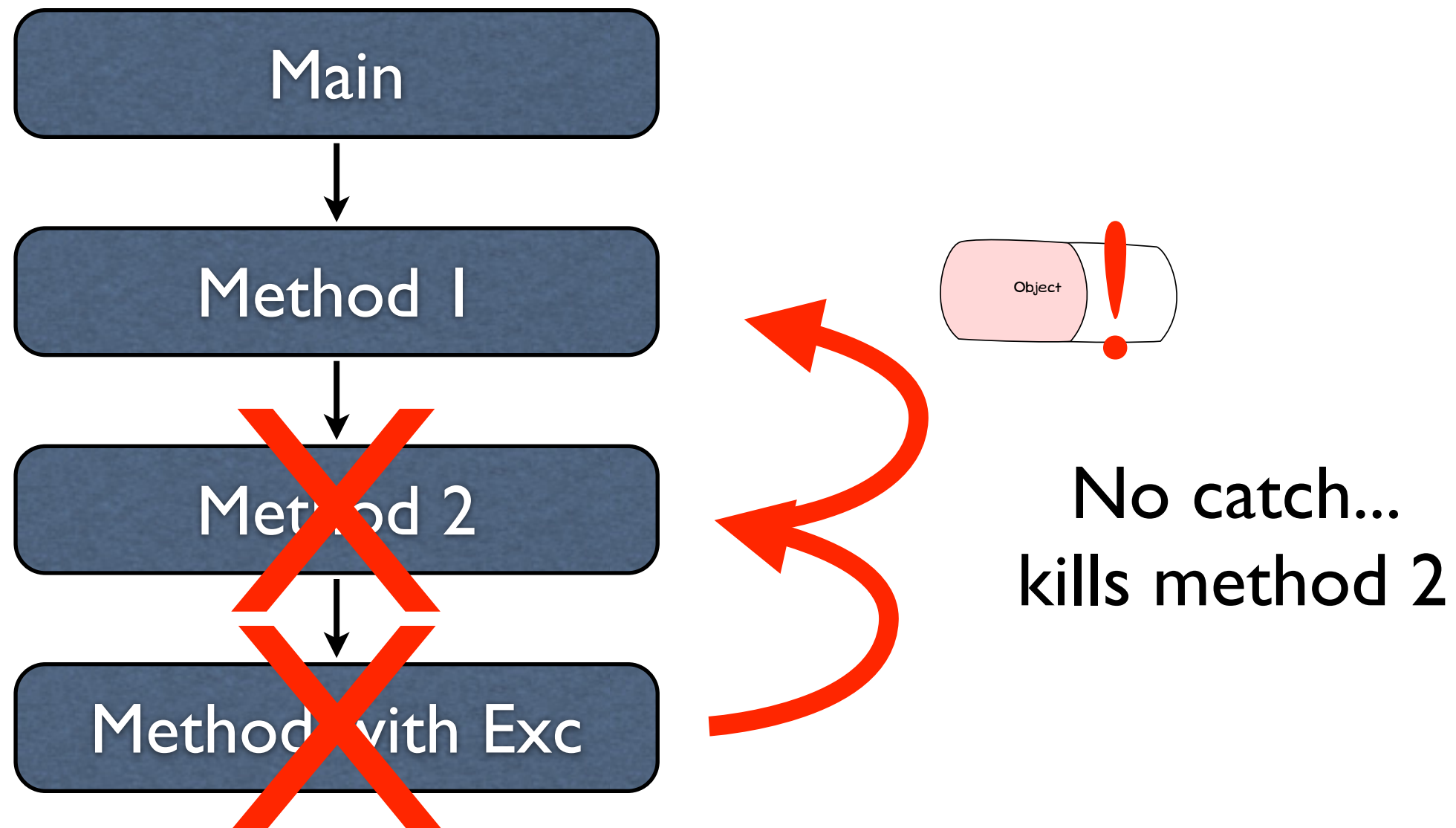
Exceptions are objects that contain an error message



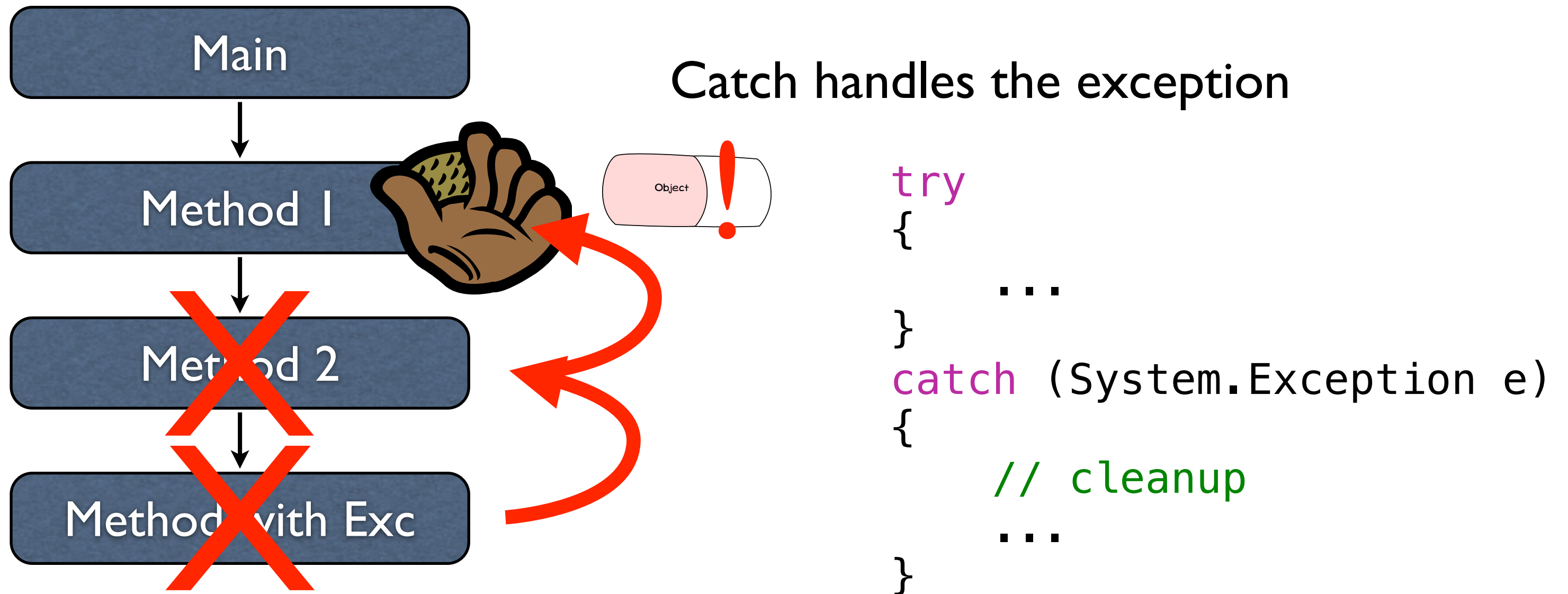
Throwing an exception causes methods to terminate until it is caught...



Throwing an exception causes methods to terminate until it is caught...



When dealing with exceptions, try to perform the code and catch any exceptions



Avoid using exceptions for known
error conditions

Try to fail gracefully, think of exceptions as
a child having a tantrum



Only use exceptions in exceptional circumstances

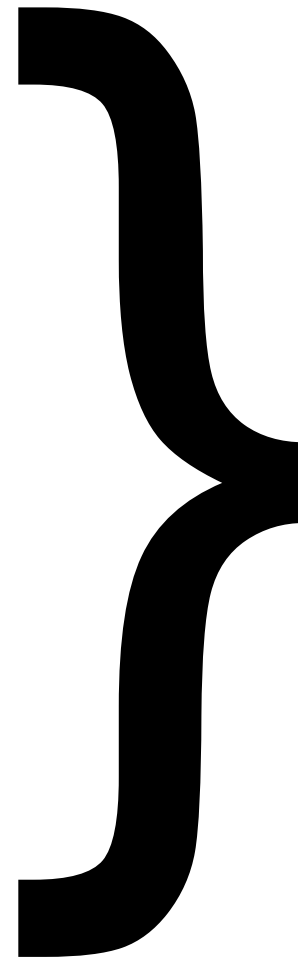
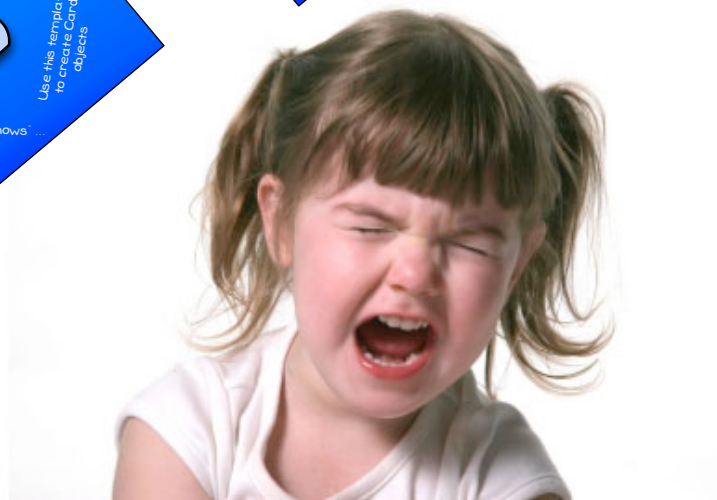


Errors you handle



Exceptions are for things
you didn't think of

Watch out for exceptions thrown from libraries you use



Please try to ...

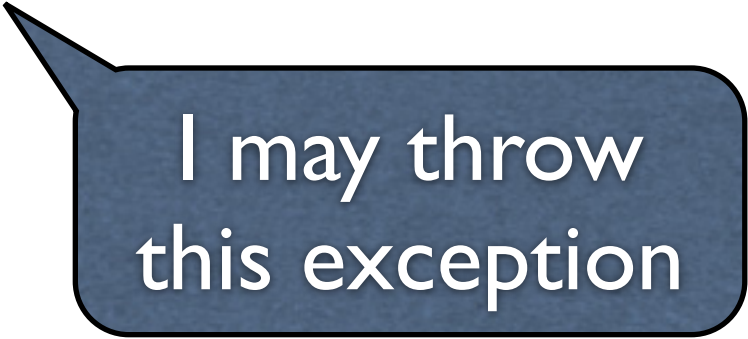
Learn to deal with exceptions

Make sure you catch all possible exceptions (in C#) ...

```
/// <exception cref="InvalidOperationException">Why it's thrown.</exception>
public void Add()
{
    int v1, v2, result;

    if ( _operands.Length < 2 )
    {
        throw new InvalidOperationException("Add requires at least 2 operands.");
    }

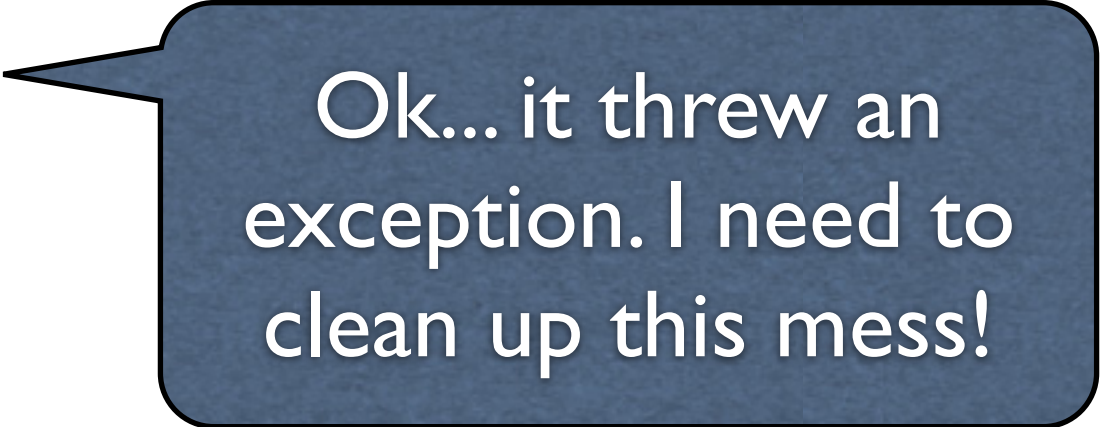
    v1 = pop();
    v2 = pop();
    result = v1 + v2;
    push(result);
}
```



I may throw
this exception

Use catch block to deal with the error

```
try
{
    ...
}
catch (System.Exception e)
{
    // cleanup
    ...
}
```



Ok... it threw an exception. I need to clean up this mess!

Use finally blocks to perform code regardless of how things end up

If this starts...

```
try
{
    ...
}
catch (Exception e)
{
    // cleanup
    ...
}
finally
{
    ...
}
```

This will run when it ends...
exception or not!

Will you be able to handle the
exceptions libraries throw at you?

Exceptions are one way of reporting
errors in your code

See how exceptions are used to
report errors, and when you should
use them

Learn to handle others' exceptions,
and report errors gracefully yourself

Exceptions: objects can have
tantrums too!