

Bugs and Exceptions



Jesse Liberty

@jesseliberty <http://jesseliberty.com>



There are bugs, and then
there are exceptions.



Bugs vs. Exceptions

A bug is a
programming error

An exception signifies
a problem at run time —
possibly an unavoidable one



Program Defensively

Users enter bogus data. Handle it.



Things Go Wrong

Networks go down

Disks fail

Run out of memory

Objects are null



Your goal is to recover, and
to avoid crashing.



What Is an Exception?

An object

`System.Exception`

Custom Exceptions

May contain other exceptions



call stack

the list of methods that called methods
that called other methods

- Exceptions unwind the call stack until they find a “handler”



If no handler is found,
the program crashes.



Handling Exceptions

You handle an exception with try/catch block



```
a = b;
```

```
//...
```

```
int c = b / (a - b); // Ka-boom!
```

```
Console.WriteLine($"c == {c}");
```

Divide by zero: crash!



```
a = b;  
//...  
try {  
    int c = b / (a - b);  
    Console.WriteLine($"c == {c}");  
} catch {  
    Console.WriteLine("oops! Attempt to divide by zero!");  
}
```

Preventing the Crash



The Finally Statement



Demo



Exceptions

