Model 1 Finding & Fixing Errors

Estimate how long (seconds, minutes, hours, days, weeks, months, or years) it typically takes to correct an error in software when it is found by:

a.	a **compiler**, seconds after the file was edited	seconds
b.	a **compiler**, later the same day or during a nightly build	hours/days
c.	a **pair programming** partner, seconds after the error was made	seconds
d.	a **code review**, days or weeks after the file was edited	days/weeks
e.	a **customer** or other user, months after the software is released	months
f.	a **unit test**, minutes after the file was edited	minutes
g.	a **unit test**, later the same day or during a nightly build	hours/days
h.	a **system test**, shortly before software is released (weeks or months after the file was edited)	weeks/months

Questions (5 min)

Start time: _____

1. Describe (or sketch a graph of) the relationship between the time to **find an error** and the time and cost to **repair an error**.

The longer it takes to find an error, the longer and more costly is is to repair.
NOTE: Ambler (2009) and Boehm (1978) contain graphs of this relationship.

2. Explain why we should use an SDLC that finds and fixes errors as quickly as possible.

The faster we find errors, the faster and less expensive it is to fix them.