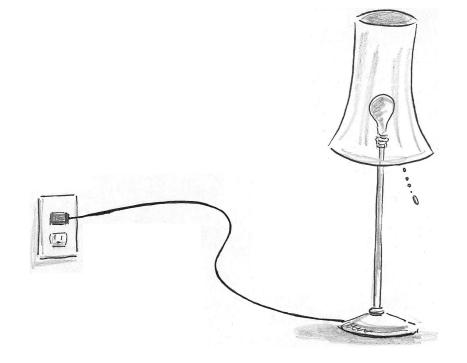
Debugging

Stephen A. Edwards

Columbia University

Spring 2020



The Edwards Way to Debug

$$\mathsf{Mains} \rightarrow \mathsf{Socket} \rightarrow \mathsf{Plug} \rightarrow \mathsf{Wire} \rightarrow \mathsf{Switch} \rightarrow \mathsf{Socket} \rightarrow \mathsf{Bulb}$$

- 1. Identify undesired behavior
- 2. Construct linear model for desired behavior
- 3. Pick a point along model
- 4. Form desired behavior hypothesis for point
- 5. Test
- 6. Move point toward failure if point working, away otherwise
- 7. Repeat #4–#6 until bug is found