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## CSE 142 Summer 2001

### Introduction to Programming

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14

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## Teaching Programming: Our Approach

- Programming is simultaneously easier and harder than most people make it out to be.
  - Easier: Many of the things good programmers do well are actually things all of us already do all the time, we just don't know it.
  - Harder: Programming is in large part a *skill*, and hence, should be taught as such.
- Programming is like any craft: it requires practice.
- Learning by doing vs. Learning by reading

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## The Fundamental Concepts/Techniques

- Abstraction
  - A focus on the *what* rather than the *how*.
  - Suppresses the details
  - Example: driving a car
- Patterns
  - Identifying frequently occurring problems and applying idioms
- Experimentation
  - Not sure how something works? Try it and see.
  - Don't be afraid to build things that you'll throw away later.

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16

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## Philosophy: A Way of Thinking

- Wittgenstein said:
  - "To imagine a language is to imagine a form of life."
- To Wittgenstein, language impacts the way you think about (literally, how you see) the world.
- There is much more to using a language than just knowing the *rules* of the language itself.
- We want you to learn the language game of computer programming.

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17