Note Information

- **ID:** `202501050802`
- **Timestamp:** `Saturday 11th January, 2025 16:37`
- **Tags:** `Computer-Science, Intro-To-CS, Introduction`
- **References:**
  - Introduction to CS and Programming using Python
  - Guttag, J., Introduction to Computation and Programming Using Python

Main Content

Main Idea
All knowledge can be thought of as either delarative or imperative.

Explanation
Declarative knowledge is composed of statements of fact. For example, the square root of a number x is equal to y if $y \cdot y = \sqrt{x}$. Imperative knowledge includes recipes for deducing information. For example, Heron of Alexandria's algorithm (1) for finding the square root of a number.

Review

1. What are the two types of knowledge? Define them and give examples.

Links to Other Notes

1. Algorithms

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Note Information

- **ID:** `202501050821`
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Main Content

Main Idea
An algorithm is a sequence of simple steps, together with a flow of control that specifies when to execute each step.

Explanation
For example, Heron of Alexandria's algorithm for computing the square root of a number x is described as follows:

1. Start with a guess g.
2. If $g \cdot g$ is close enough to x, stop and say that g is the answer.
3. Otherwise create a new guess by averaging g and x/g.
4. Using this new guess, which we again call g, repeat the process until $g \cdot g$ is close enough to x.

Review

1. Define the term algorithm and give an example.

Links to Other Notes

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