Kiểm tra Phần mềm

Bài 09

Kỹ thuật gỡ rối

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Content

- Debugging
- Debugging Methods
- Debugging Principles
- Error-Repairing Techniques
- Error Analysis

Debugging

- 2 steps
  - the determination of the exact nature and location of the suspected error within the program
  - fixing the error

Debugging

- these reasons primarily
  - Your ego may get in the way
  - You may run out of steam
  - You may lose your way
  - You may be on your own

Debugging Methods

- By
  - Brute Force
  - Induction
  - Deduction
  - Backtracking
  - Testing

Debugging Principles

- Error-Locating Principles
- If You Reach an Impasse, Sleep on It
- If You Reach an Impasse, Describe the Problem to Someone Else
- Use Debugging Tools Only as a Second Resort
- Avoid Experimentation—Use It Only as a Last Resort

Error-Repairing Techniques

- Where There Is One Bug, There Is Likely to Be Another
- Fix the Error, Not Just a Symptom of It
- The Probability of the Fix Being Correct Is Not 100 Percent
- The Probability of the Fix Being Correct Drops as the Size of the Program Increases
- Beware of the Possibility That an Error Correction Creates a New Error
- The Process of Error Repair Should Put You Temporarily Back into the Design Phase
- Change the Source Code, Not the Object Code

Error Analysis

- Where was the error made?
- Who made the error?
- What was done incorrectly?
- How could the error have been prevented?
- Why wasn't the error detected earlier?
- How could the error have been detected earlier?

Q/A ?!