

### 软件工程



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### 8.2

# What is required of Maintenance Programmer?



### 東京大学 Difficulty of Maintenance



- **♦** About 75% of the total cost of a product accrues during the maintenance phase.
- **◆** Maintenance is a major income source.



## What is Required of Maintenance programmers?



- **♦** Every maintenance programmer needs to be an expert in
  - > Specifications
  - > Design
  - > Implementation
  - > Integration
  - > Testing
  - Documentation



## What is Required of Maintenance programmers?



- **◆** Maintenance is one of the most difficult aspects of software process, because
  - > maintenance incorporates aspects of all other phases.
  - > it needs superb diagnostic and debugging skills.
  - > it needs superb testing skills.
  - > it needs superb documentation skills.
  - > it is thankless.

#### **Current Status of Maintenance**

- ♦ Nevertheless, even today many organizations assign maintenance to
  - > unsupervised beginners
  - > less competent programmers

#### How can this situation be changed?

- ➤ Management must understand that maintenance is a challenge, and good maintenance is critical for the success of the organization.
- Managers must restrict maintenance tasks to their best programmers with all skills needed to perform maintenance.
- And pay them accordingly.



#### **Case Discussion**



> A software organization of American Navy