



東北大學  
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# 软件工程

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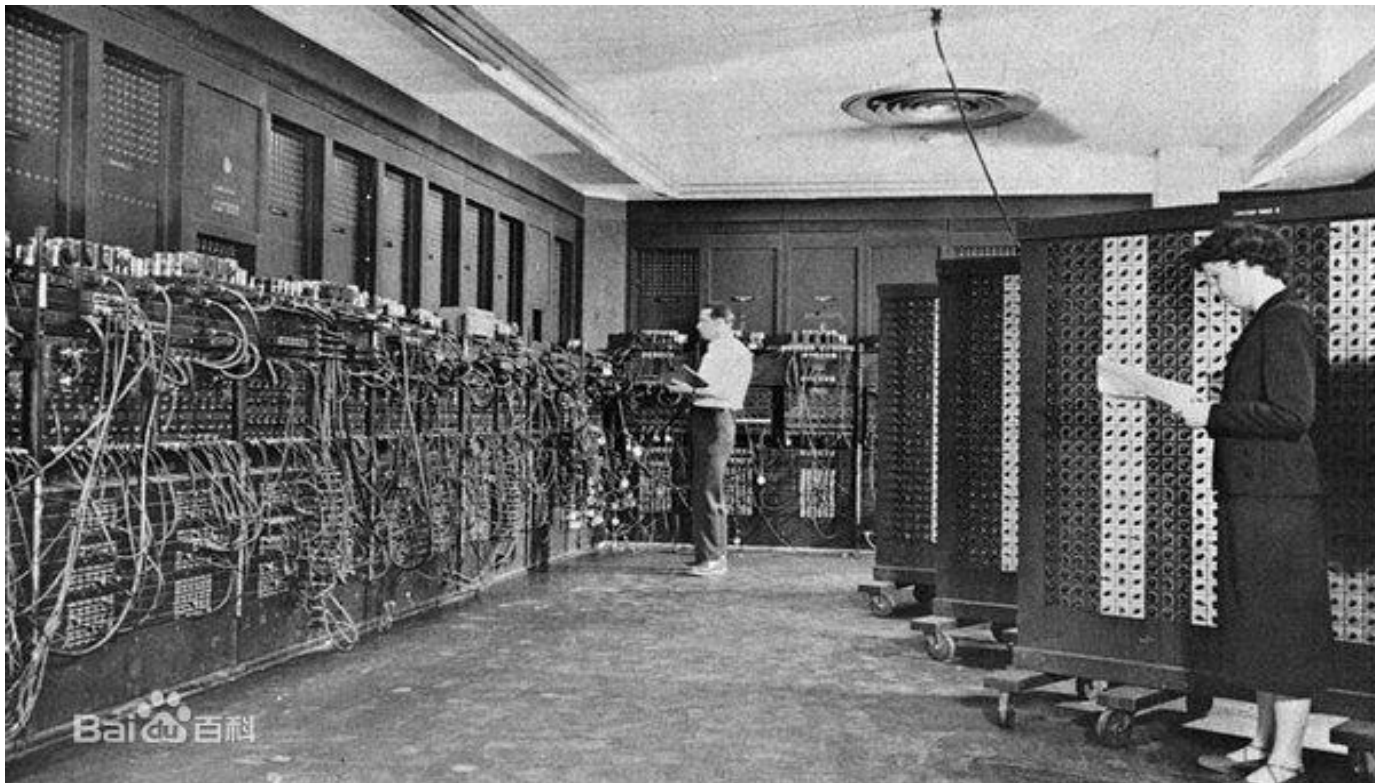


# 1.1

# Software Concept

# Software History

## ■ The 1st-generation computer, 1945~1957, Vacuum Tubes



The first computer in 1946

# Software History

- The 2nd-generation computer, 1958~1964, Transistor



# Software History

- **The 3rd-generation computer, 1965~1970, Integrated Circuit**



# Software History

- **The 4th-generation computer, 1971~present, Large-scale Integrated Circuit----Personal Computer**







# Software History

**What software have you used ?**



# Software Concept

- ◆ ***code*** in machine-readable form
- ◆ ***data*** (temporary and permanent data)
- ◆ **All the *documents***
  - Specification documents
  - Design documents
  - Legal and accounting documents
  - Software project management plan
  - All types of manuals
  - Other management documents





# Software Characteristics

- ◆ Software is *abstract*. It is a kind of logic entity, not concrete physical entity.
- ◆ Software does *NOT wear out*.
- ◆ Software is *portable*.
- ◆ Software is *complex*.
- ◆ Software is *expensive*.



# DISCUSS

**Please tell a case or one of your stories  
which proves that you have benefited or  
suffered from a characteristic of software.**