



東北大學
Northeastern University

软件工程

张爽

东北大学软件学院



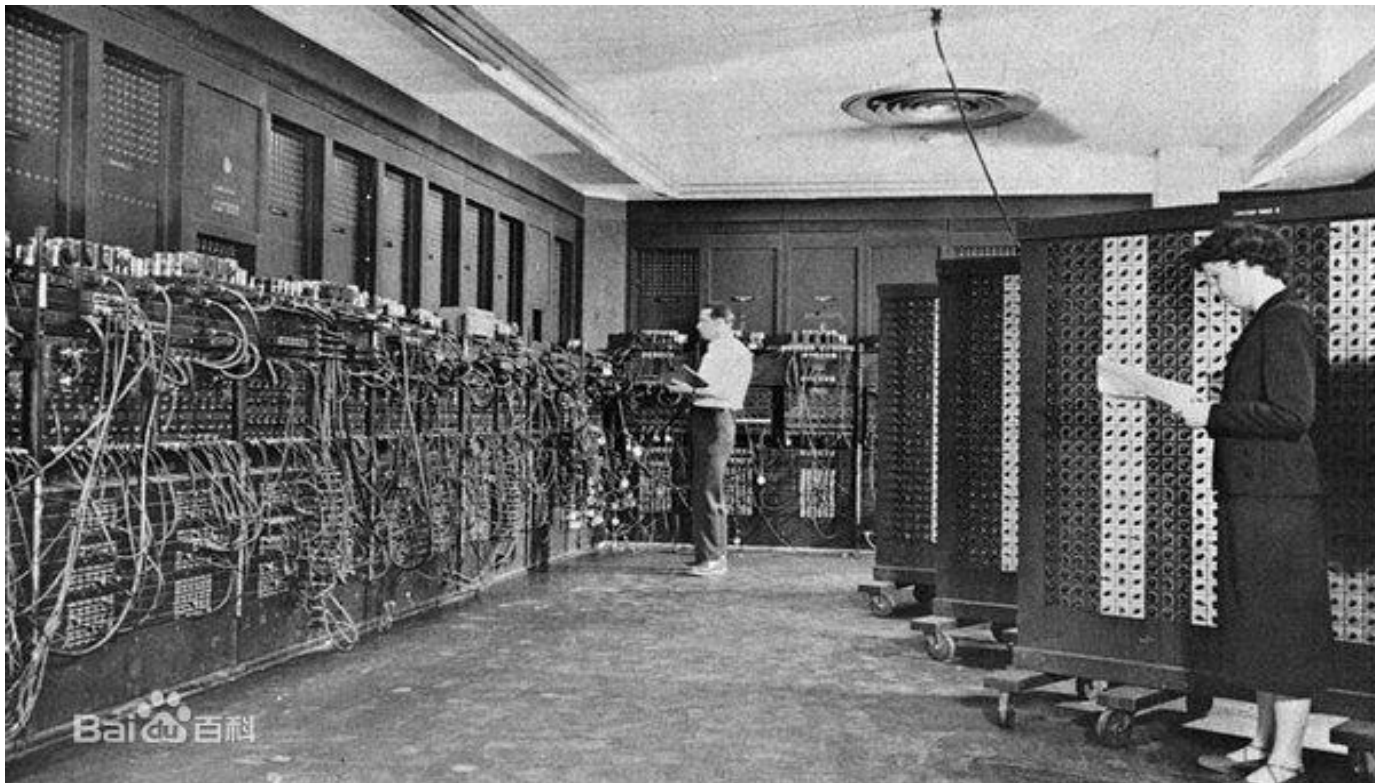


1.1

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

- ◆ **Which characteristic of software have you benefited or suffered from? Please tell your story.**