

CISC 1600/1610 Computer Science I

Programming in practice: testing and debugging

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JMH 328A

To err is human

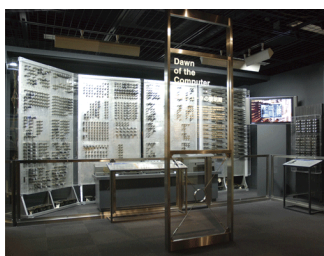
- Syntax errors (“Compiler errors”)
 - Violate grammar rules of the language
 - Discovered by the compiler
- Logic errors (“Run-time errors”)
 - Incorrect algorithm to solve problem
 - Compiler does not see the error
 - Results in unexpected program behavior

**Start programming assignments/projects early –
leave ample time for “debugging”**

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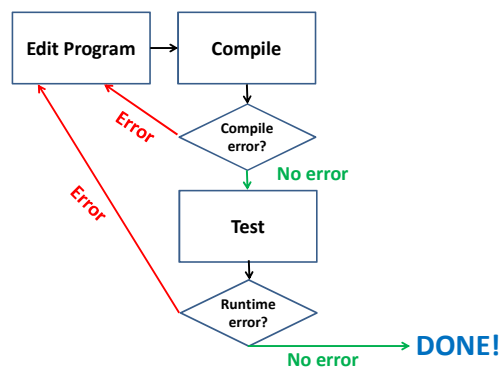
The earliest computer bugs

- Programming with vacuum tubes
- If a bug crawls into a tube, the circuitry is altered and calculations cannot be performed correctly



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The cycle of programming



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