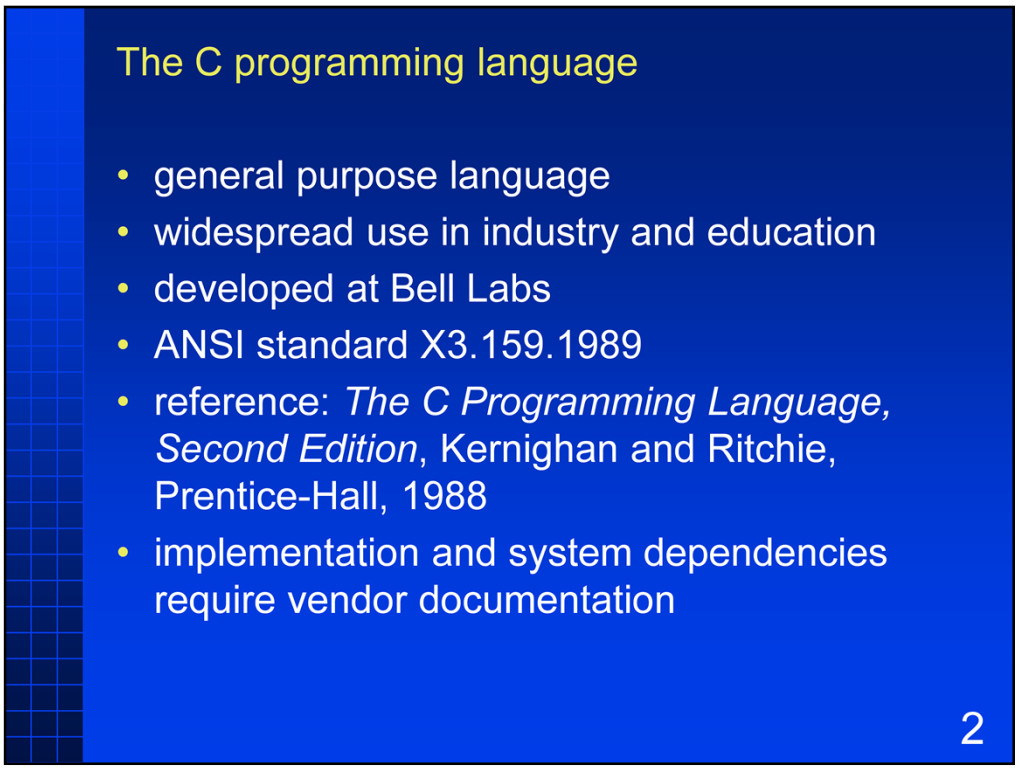
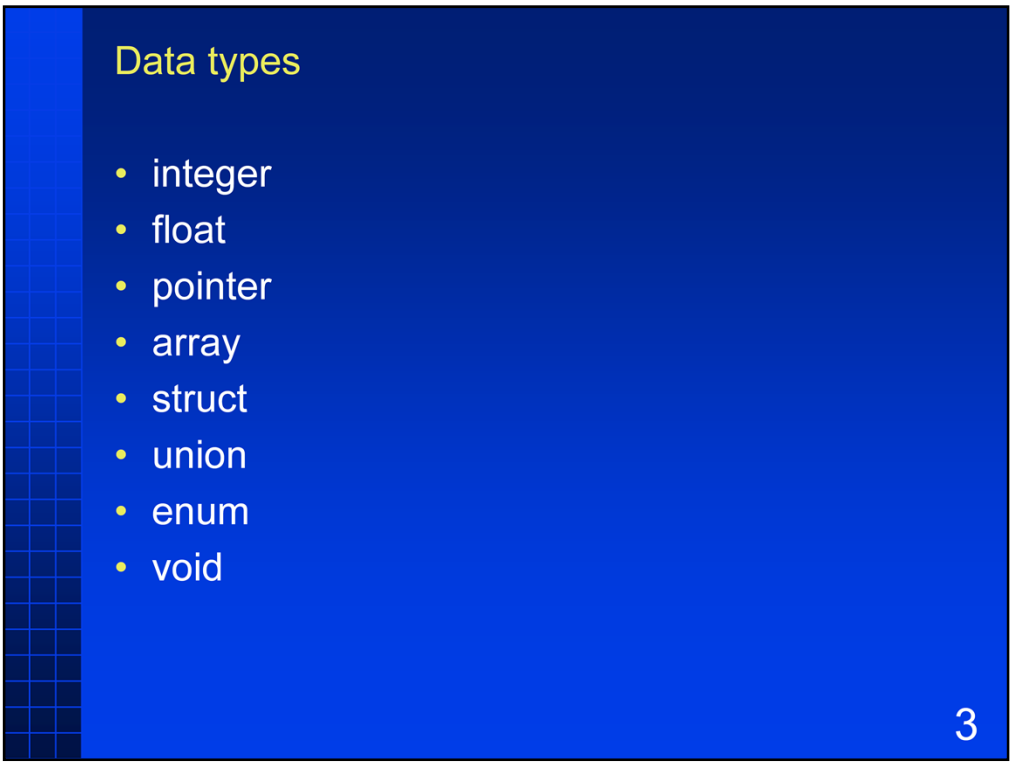
Section 12

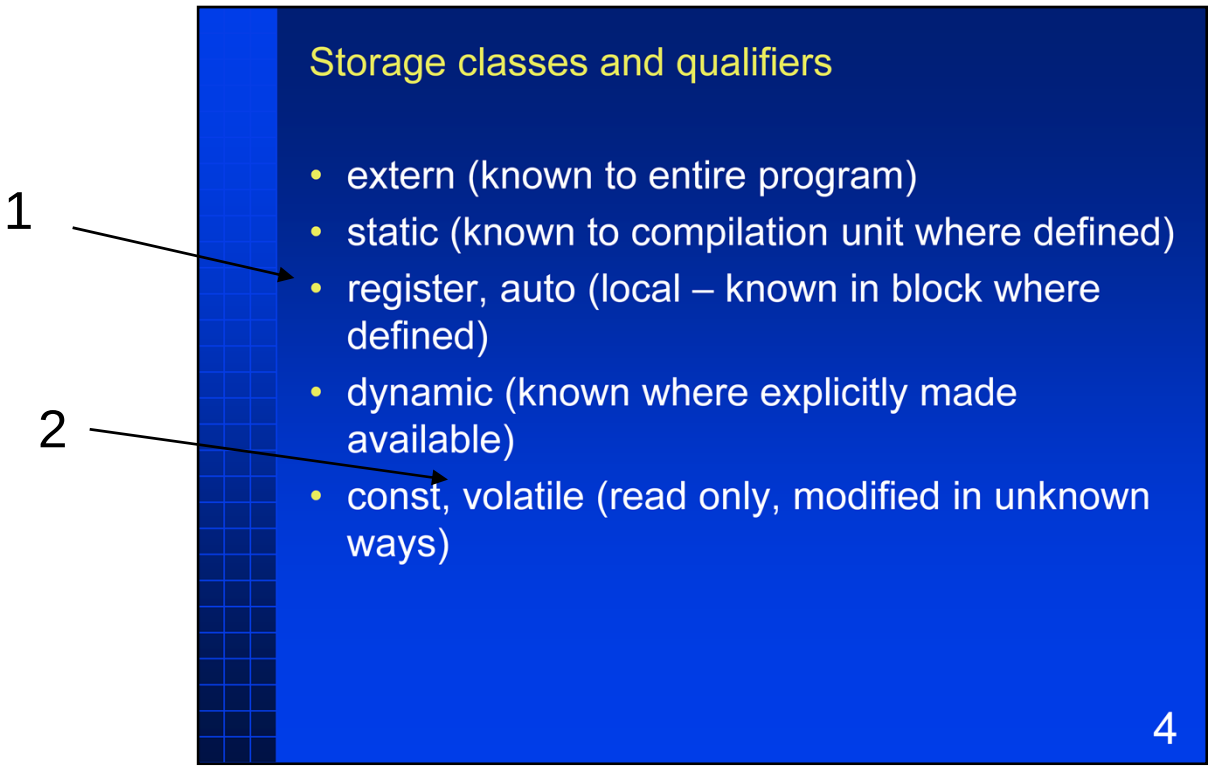
Summary


The C programming language
• general purpose language
• widespread use in industry and education
• developed at Bell Labs
• ANSI standard X3.159.1989
• reference: The C Programming Language, Second Edition, Kernighan and Ritchie, Prentice-Hall, 1988
• implementation and system dependencies require vendor documentation
2



as seen

integers are king, most operators defined to work conveniently with ints

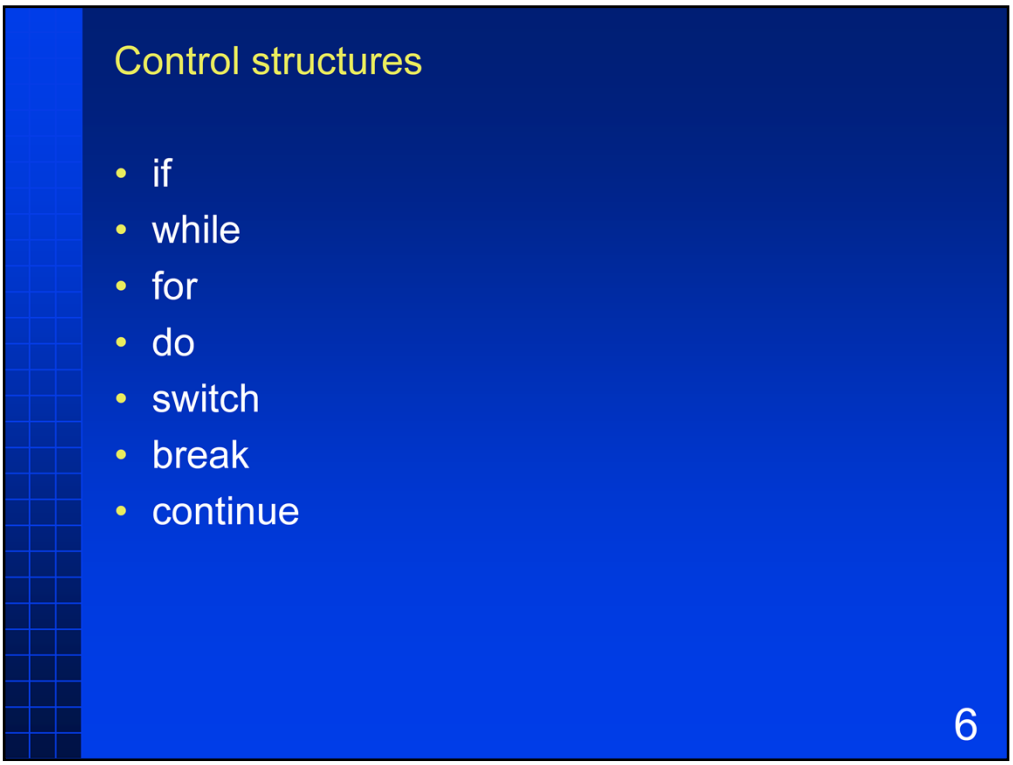


1) auto -- default class for local variables, never need the keyword so omitted, register means allocate to a machine register if possible

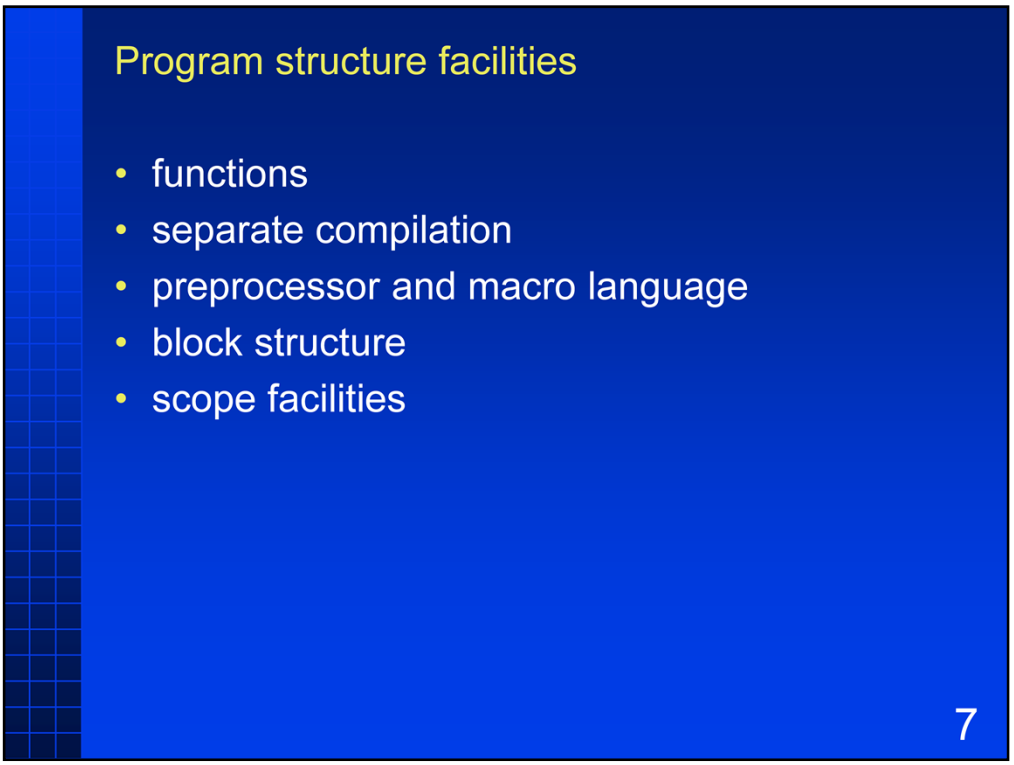
2) Volatile: modified in a way the compiler cannot know (e.g., interrupt vector)

implications for optimizers flow control, storage alloc, etc.

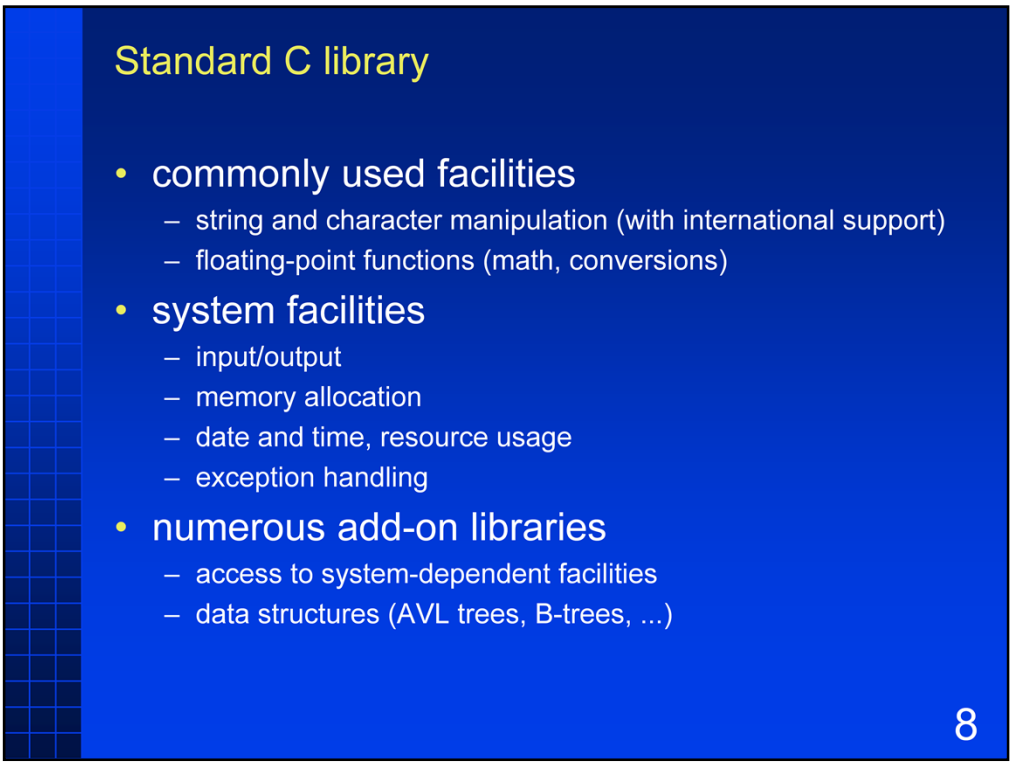
```
void some_function( int p )
 {
   auto char *str;  /* as usual */
   register int i;  /* in a machine register */
   const double PI = 3.14159;
   volatile long int IOPSW;

 }
```



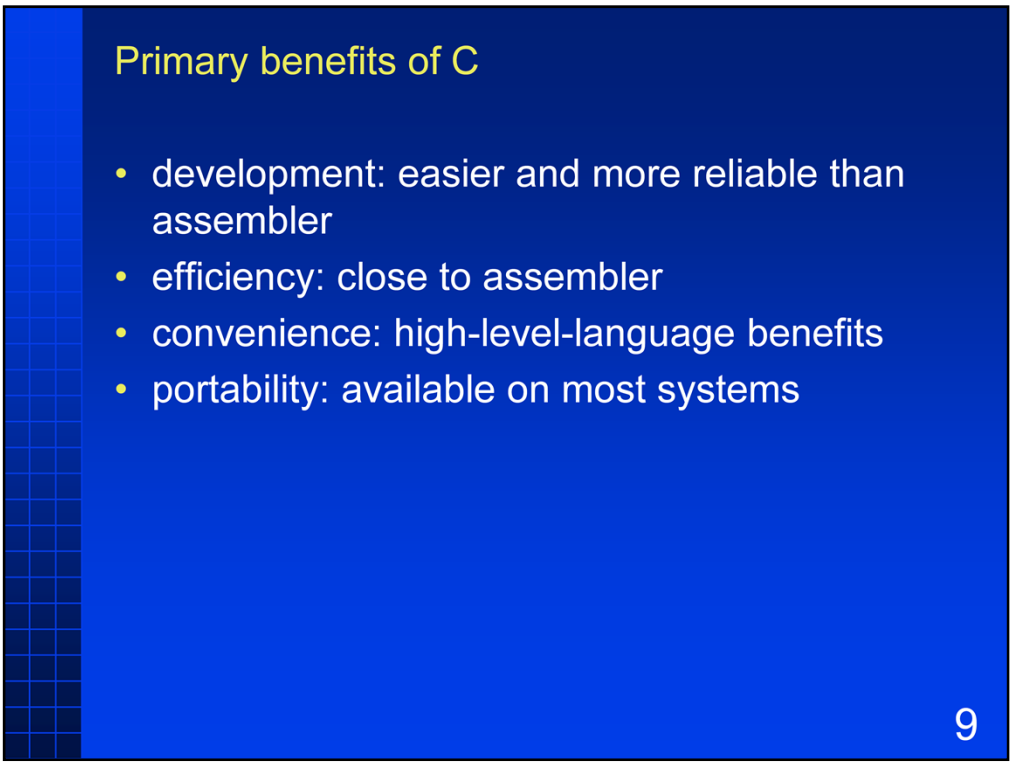
also goto



functions are important



reference TOC of C library help



easier to program

small run-time environment

nice for ASM-class apps, system programs

vendor independence on most platforms

Downside: hard to learn, harder to get good at, easy to write bad, buggy programs