C What Happens

BITS, BYTES, ETC.

- Bit
- Nibble
- Byte
- Binary.
- Hexadecimal

CONSTANTS

VARIABLES

DATA

- Data types
- ASCII characters

NAMING CONSTANTS AND VARIABLES

- Reserved words in C

OPERATORS - SHORT LIST

TRUE vs. FALSE

DEVICE FILES

PRE-PROCESSOR DIRECTIVES - SHORT LIST

INs AND OUTS OF DIGITAL I/O

CONFIGURATION REGISTER(S) FUSES

FUNCTIONS

- main() function
- Functions
- Built-in functions - short list

STATEMENTS

- Executable statements
  - Blocks
- Conditional statements
- Semicolon use rules

PROGRAM DESIGN

- Program design - control flow
  - if
  - if/else
  - while loop
  - do/while loop
  - for loop
  - switch/case
  - break
  - continue
  - return
  - goto
- Rule
- Modular programming

WRITING PROGRAMS (With Experiments)

- Programming concepts
- Programming examples
- Simple data transfers
- Loop - endless
  - While loop
  - Do/while loop
    - Port registers accessed as variables
      - Port addresses defined using #byte directives
      - Port addresses defined using user-created include file
      - Port addresses defined using get environment built-in function
- Loop with a counter
  - For loop
- Loop until
  - While loop
- Comparisons
  - Relational operators
  - If/else
- Switch/case
- Function calls and time delays
- Bit-level I/O using built-in functions
  - Bit toggle
  - If statement - read switch position
    - ! logical operator
    - && logical operator (two switches)
    - || logical operator (two switches)
    - if/else, else, else
  - Read input bit, write output bit
  - Event counting
- Bit manipulation using bit manipulation functions
  - Bit set/clear
  - Bit testing

  - Flags
    - #bit pre-processor directive example
    - typedef example