# Jiangxi University of Science and Technology
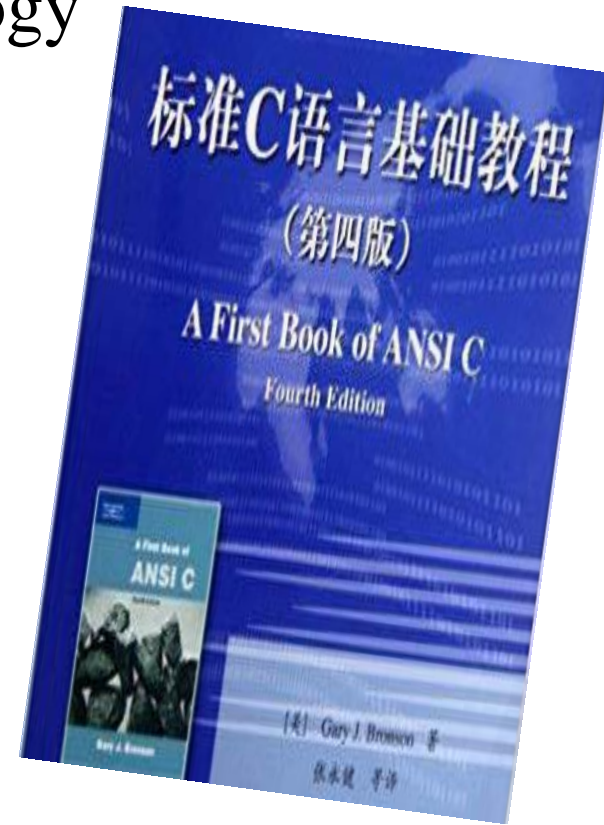
# C programming

## Compiler Errors

*A First Book of C*
***ALL ERROR COMPILER OF C PROGRAMMING***

**Program** 2.7

| Error | Typical Unix-based compiler·error message | Typical Windows-based compiler error message |
|---|---|---|
| Omitting the parentheses,(), in the header line for the main function. | (S) Definition of function main requires parentheses. | error:: 'main' : looks like a function definition, but there is no formal parameter list; skipping apparent body |
| Omitting the opening { in the main function body. | (S) Syntax error: possible missing ';' or ','  (S) Parameter declaration list is incompatible with declarator for main. | Note: The error message you will receive depends on the statements in the function. The line numbers for these errors start at the line immediately following the header line. Typical error messages will include: syntax error : missing ';' before identifier ... missing storage-class or type specifiers syntax error : 'return' syntax error : '}' |
| Omitting the } at the end of the main function. | (S) Syntax error: possible missing ';' or ', '? (S) Unexpected end of file. | end of file found before the left brace '{' was matched |
| Misspelling printf. | ERROR: Undefined symbol | Identifier not found even with argument dependent lookup |

| Error | Typical Unix-based compiler error message | Typical Windows-based compiler error message |
|---|---|---|
| Omitting either the opening or closing double quotes in the · string passed to printf (). | (S) String literal must be ended before the end of line.<br>(S) Syntax error: possible missing ')' ? | newline in constant |
| Omitting the ;<br>at the end of an executable statement. | (S) Syntax error:<br>possible missing ' ;' or ','? | syntax error :missing<br>' ; ' |
| Forgetting to declare all the variables used in a program. | (S) Undeclared identifier | undeclared identifier |
| Omitting the opening / * at the beginning of a comment. | (S) Definition of function this requires parentheses. (S) Syntax error: possible missing '{'? Note: Th~ compiler is basically telling you that it cannot recognize any of the lines · following the mistake.) | Note: The error message you will receive depends on the statements following the comment. The line numbers for these errors will start at the line missing the / *. A warning, similar to the following, will also be issued warning: '*/' found outside of comment |
| Omitting the closing * / in a comment. | (S) Comment that started on line .. must end before the end of file. | unexpected end of file found in comment |
| Initializing anumeric variable with a comma in the initializer.<br>For example,<br>int val= 1,234; will generate an error. | (S) Syntax error. | syntax error : 'constant' |

Program 3.7

| Error | Typical Unix-based compiler error message | Typical Windows-based compiler error message |
|---|---|---|
| Attempting to use a mathematical function, such as pow without including the math. h header file. | "ERROR: Undefined symbol: . Pow ( You can use the - bloadmap or –bnoquiet options when compiling the program to obtain more information.Additionally, you must use the - lm option for correct compilation .) | "pow identifier not found." |
| Forgetting to close the control string passed to scanf ( ) with double quotes. | "(S) String literal must be ended before the end of line.“ "(S) Syntax error: possible missing’)’? (The first error message is attempting to tell you that the string has not been closed using a double quote. The second error message is a result of the string not being terminated, which causes an error on the line following the call to scanf().) | "newline in constant" "syntax error: missing ')'‘ before identifier ... “ (The first error message is attempting to tell you that the string has not been closed using a double quote. The second error message is a result of the string not being terminated, which causes an error on the line following the call to Scanf ().) |
| Failing to separate all arguments in scanf ( ) with commas as, for example, in the call scanf ( "%f%f", &count &n); | "(S) Operation between types "unsigned char*" and "float" is not allowed.“ (Although very cryptic, this message indicates that the compiler cannot recognize the variable in which the function is trying to store a value.) | " ' & ' : illegal, left operand has type ... “ (Although very cryptic, this message indicates that the compiler cannot recognize the variable in which the function is trying to store a value.) |
| Placing the parentheses in the wrong location when using the cast operator, as, for example, in the expression ( int count) | "(E) Identifier not allowed in cast or Size of declarations.“ "(S) Syntax error." | "syntax error : missing ')' before count " " syntax error:') “ |
| Applying the increment or decrement operators to an expression.For example,the expression ( count + n) ++ | "Operand must be a modifiable value."(This error message is indicates that the expression to the left of the ++ operator can not be modified.) | "++ needs 1-value."(This error message indicates that the expression to the left of the + + operator can not be modified.) |

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| Error | Typical Unix-based Compiler Error Message | Typical Windows-based Compiler Error Message |
|---|---|---|
| Forgetting to surround a tested expression in parenthesis | (S) Syntax error: possible missing '('? | syntax error: identifier .... |
| Mistyping relational operators. For example using => instead of >= | (S) Unexpected text '>' encountered. | syntax error : 'operator' |
| Using a construction such as<br>if (expression)<br> statement1;<br> statement2;<br>else<br>  statement3 | (S) Unexpected text 'else' encountered. (This error message occurs because the else keyword does not have a matching if. Because of statement2 the if becomes a one-way if statement.) | illegal else without matching if (This error message occurs because the else keyword does not have a matching if. Because of statement2 the if becomes a one-way if statement.) |
| Forgetting to use quotes around single characters used in a relational expression | (S) Undeclared identifier ... | 'char': undeclared identifier |
| Testing a floating-point expression in a switch statement | (S) Expression must be an integral type. | switch expression of type '...' is illegal |
| Forgetting the braces in a switch statement | (S) Case label cannot be placed outside a switch statement. (S) Break statement cannot be placed outside a while, do, for, or switch statement. | illegal break illegal default |

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Program 5.8

| Error | Typical Unix-based compiler error message | Typical Windows-based compiler error message |
|---|---|---|
| Separating the statements in a for loop with commas rather than semicolons. For example, for(init,cond,alt) | (S) Syntax error: possible missing ';'or','? | error: syntax error : missing ';' before ')' |
| Omitting the parenthesis in a whi 1 e statement. For example, while condition { statement; } | (S) Syntax error: possible missing '('? | error: syntax error : missing '; ' before '{' |
| Omitting the ; at the end of the do-while statement. For example, do{ statement; }while(condition) | (S) Syntax error.(This error tends to lead programmers astray. You would expect to get the error generated by a missing semicolon or ·comma, but instead you get a syntax error.) | error: syntax error : missing ';' |
| Omitting the second + or - in a post increment or decrement statement. For example, val+; or val-; | (S) Syntax error. (Note that +val; and -val; do not generates a compiler error because these are valid expressions) | error: syntax error : ';' |

# Program 6.5

| Error | Typical Unix-based compiler error message | Typical Windows-based compiler error message |
|---|---|---|
| Terminating a function's header line with a semicolon. | (S) Syntax error | error: missing function header (old-style formal list?) |
| Passing the incorrect number of parameters into a function. | (E) Missing argument(s) | error C2660: function does not take ... Arguments |
| Not having a function prototype. | (S) Syntax error: possible missing ';' or ' ' I Note that each parameter of the function will generate the following error: (S) Undeclared Identifier | error: identifier not found, even with argument dependent lookup error C2365: redefinition;previous definition was a 'formerly unknown identifier' |
| Changing the data types of the parameters between the prototype and the function header. | ( S) Redeclaration of ... differs from previous declaration (I) The data type of parameter differs from the previous type | error: unresolved external symbol referenced in function fatal error: Unresolved Externals |
| Forgetting to separate the parameters in the function header with a comma. | (S) Syntax error: possible missing ·')' or ','?Redeclaration of doit differs from previous declaration on line 3 of "Filename.c" (I) Redeclaration of doit has a different number of fixed parameters than the previous declaration (S) Undeclared identifier b | error: syntax error : argument should be preceded by ' , ' |
| Using a function name that is a reserved syntax word. | (S) Redeclaration of function differs from previous declaration | error : identifier not found, even with argumentdependent lookup |

Program 7.6

| Error | Typical Unix-based compiler error message | Typical Windows-based compiler error message |
| --- | --- | --- |
| Attempting to take the address of a constant | (W) Operation between types II int" and II cons t int*" is not allowed. | error: & on constant |
| Applying the indirection operator to a nonpointer variable | (S) Operand of indirection operator must be a pointer expressi' on. | error: illegal indirection |
| Not passing an address in a call to a function whose parameter is declared as a pointer | (W) Function argument assignment between types II type* 11 and "type" is not allowed. | error: function cannot c0nvert parameter from dataType to dataType* |
| Assigning a value, rather than an address to a pointer | (W) Operation between types "type*" and "type II is not allowed. | error: cannot convert parameter from dataType to dataType* |

| Error | Typical Unix-based compiler error message | Typical Windows-based compiler error message |
|---|---|---|
| Designating a variable as an extern in one file, without declaring the variable as a global ,in another file | ERROR: Undefined symbol: ex (Note: use the –bloadmap or  bnoquiet option to obtain more information about the error.) | Link error: unresolved external symbol ... |
| Applying the indirection operator to a nonpointer Variable | (S) Operand of indirection operator must be a pointer expression. | error: illegal indirection |
| Not passing an address in a call to a function whose parameter is declared as a pointer | (W) Function argument assignment between types "int*" and "int" is not allowed. | error: function cannot convert parameter from dataType .to dataType* |
| Assigning a value, rather than an address, to a pointer | (W) Operation between types "int*" and "int" is not allowed. | error: cannot convert parameter from dataType to dataType* |
| Attempting to take the address of a constant | (W) Operation between types "int" and "const int*" is not allowed. | error: & on constant |
| Attempting to use a variable that is not within scope | (S) Undeclared identifier ... | error: undeclared identifier ... |

# Reference

- BOOK
- Some part of this PPT given by Prof 欧阳城添
(Prof: Chengtian Ouyang)
-  with special thank
- https://www.codingunit.com/c-tutorial-first-c-program-hello-world