The C-Language Keywords and Symbols

Keywords

MEMORY
01.void
02.char
03.int
04.short
05.long
06.float
07.double
08.signed
09.unsigned
10.struct
11.union
12.enum
13.const
14.volatile
15.auto
16.extern
17.static
18.register
19.typedef
20.sizeof

CONTROL
21.return
22.if
23.else
24.switch
25.case
26.default
27.while
28.do
29.for
30.break
31.continue
32.goto

Symbols

CONTROL
#
< >
//
/* */
( )
{ }
;
,
“
‘
=
[ ]
:
?
.
\

MEMORY
&
*

LOGIC
==
!=
<
>
<=
>=

&&
||

!

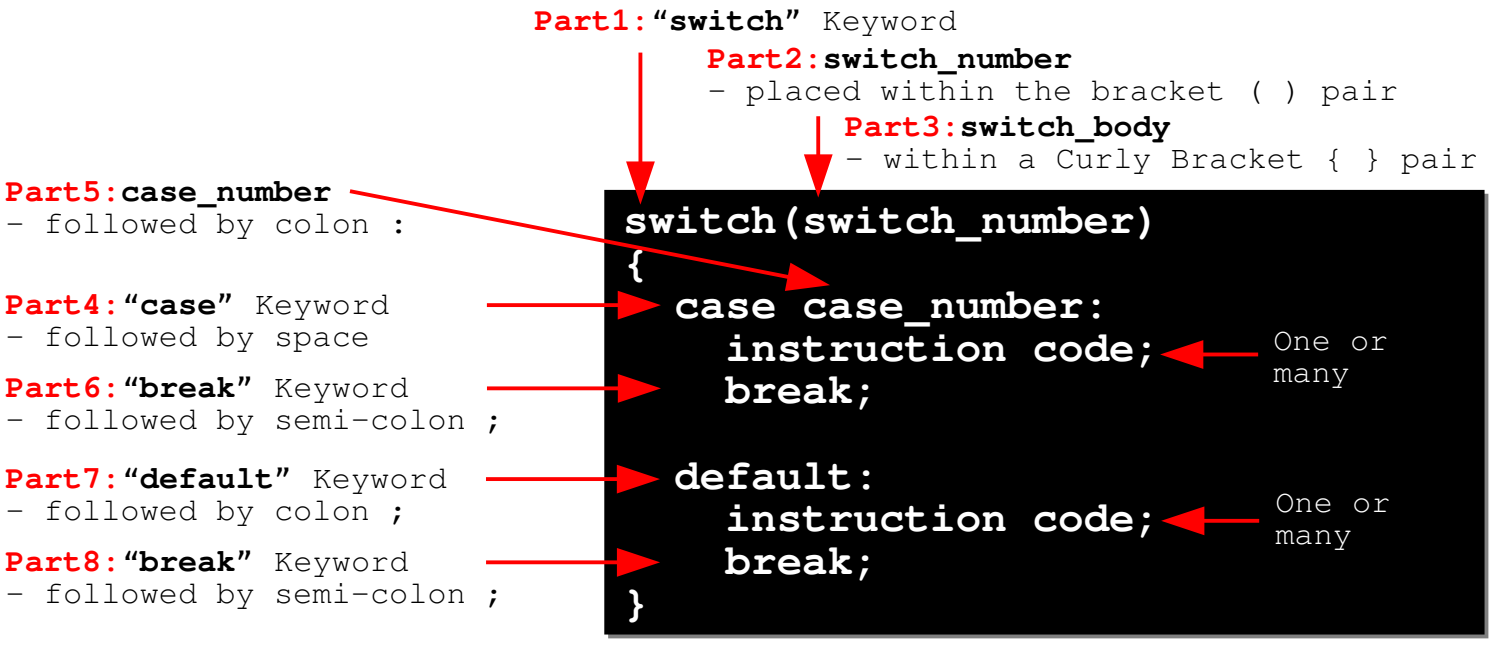
MATH
*
%
/
+
-

BIT OP
|
&
^
~
<<
>>

switch - case - default

The “switch/case” Keyword allows us to run instruction codes based on a SOURCE NUMBER and a MATCHING NUMBER (for selective execution)

“**switch**” Keyword used alone
Part1:“**switch**” Keyword
Part2:switch_number - Source Number, any whole numbers(no fractions)
Part3:switch_body
Part4:”**case**” Keyword
Part5:case_number - Matching Number, any whole numbers(no fractions)
Part6:”**break**” Keyword
Part7:”**default**” Keyword
Part8:”**break**” Keyword



ATMEGA328/ARDUINO - C_LANGUAGE - switch - case - default
https://github.com/teaksoon/lmaewapm

switch - case - default (Step by Step)

STEP 1/4:
Make a skeleton switch-case-default structure

```
switch(0) {
  default:
  break;
}
```

STEP 2/4:
switch/switch_number - a whole number(no fractions)

```
int switch_number; // a Variable with any whole number
switch(switch_number) { // switch_number = any whole number(no fractions)
  default:
  break;
}
```

STEP 3/4:
case/case_number to match switch_number

```
int switch_number; // a Variable with any whole number
switch(switch_number) {
  case case_number: // case_number = any whole number to match switch_number
  instruction_code;
  break;
  default:
  break;
}
```

- we can have **zero or many "case"** structure within the "switch" body

- when the **switch_number** and the **case_number matches**, the instruction_code after the **case colon : symbol** will start to run until it encounters "break;" where it will exit the switch (after the closing curly bracket })

STEP 4/4:
default

```
int switch_number; // a Variable with any whole number
switch(switch_number) {
  case case_number: // case_number = any whole number to match switch_number
  instruction_code;
  break;
  default:
  instruction_code;
  break;
}
```

- we can have only **one "default"** structure within the "switch" body

- when the **switch_number** does not match any **case_number matches**, the instruction_code after the **default colon : symbol** will start to run until it encounters "break;" where it will exit the switch (after the closing curly bracket })

- **break** Keyword

- "break;" will jump to the code after the body closing curly bracket } for the following structures: switch , while , do and for

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Arduino IDE|Save PROGRAM as: **c_switch**
Enter codes below and upload. Use the Serial Monitor to see results

```
void setup() {
  Serial.begin(9600);Serial.print("\n\nSerial Monitor(9600)...");

int menu_options;
  // menu_options Variable value will change via different methods
  // tactile buttons, keyboard, sensors, etc
  menu_options = 2; // dummy test value, change to test

  Serial.print("\n\nBefore entering the switch-case-default");

  switch(menu_options) {
    case 1:
    Serial.print("\n\nPROGRAM continues here,");
    Serial.print("\nmenu_options Variable matches case 1:");
    break;
    case 2:
    Serial.print("\n\nPROGRAM continues here,");
    Serial.print("\nmenu_options Variable matches case 2:");
    break;
    default:
    Serial.print("\n\nUnknown Menu Option");
    break;
  }
  Serial.print("\n\nEnd of switch-case-default");
}
void loop(){}
```

In this example, the menu_option have a value of 2; since the case 2: matches this value, the codes in the case 2: will be executed until break; where it exits the switch structure. It will then run the codes after the closing switch body closing curly bracket }

Try change the menu_option value with different number to see different effects