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1 # `2-if-for-array`
2
3 ## Additional
4
5 - `Settings` => `Code Style` (Google)
6 - `Settings` => `Action on Save` (Formatting Code)
7 - TODO (hfwei): CLion code template
8
9 ## `min-of-two.c`
10
11 - `if-else`
12 - code style
13   - tab vs. space video
14   - google format
15   - format on save
16 - `?:`: conditional operator; ternary operator
17 - `fmin, fmax` for doubles
18
19 ## `min-of-three.c`
20
21 - nested `if-else`
22 - `if-else` template
23 - comment for `else`
24
25 ## `leap-if-else.c`
26
27 - flowchart
28 - `leap`: 0/1 integer as a flag
29 - `if-else`
30   - easier cases go first
31 - code style
32   - spaces
33 - `==`: 0 == leap
34 - `if (leap == 0)` vs `if (leap != 0)`
35
36 ## `leap-else-if.c`
37
38 - easier cases go first (Flatten Arrow Code)
39
40 ## `leap-elseif.c`
41
42 - `else if` (Cascading If Statements)
43   - `{ }` removed
44   - `if` and `else` in the same line
45   - `Code` => Format Code (Ctrl + Alt + L)
46 - find the iff condition for leap
47
48 ## `leap.c`
49
50 - `&&`, `||` operator
51   - operator precedence (https://en.cppreference.com/w/c/language/operator\_precedence)
52 - short-circuit
```

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53 - test: 25, 80, 100, 400
54 - TODO: order of evaluation (https://en.cppreference.com/w/c/language/eval\_order)
55 - `i = ++i + i++;`
56 - Code improvements
57 - `if`: without `else`
58 - `int leap = (year % 4 == 0 && year % 100 != 0) || (year % 400 == 0);`
59 - `?:` in `printf`
60
61 ## `min-array.c`
62
63 - `array`
64 - `array initializer` (0000)
65 - What if uninitialized? (garbage in, garbage out)
66 - designator (Since C99)
67 - `int n[5] = {[4]=5,[0]=1,2,3,4}; // holds 1,2,3,4,5`
68 ```C
69     int a[MAX] = { // starts initializing a[0] = 1, a[1] = 3, ...
70         1, 3, 5, 7, 9, [MAX-5] = 8, 6, 4, 2, 0
71     };
72 ```
73 - `const int NUM`
74 - `#define NUM 5`
75 - `for`
76 - syntax
77 - `for (init-clause; condition-expression; iteration-expression)
    loop-statement`
78 - semantics (CLion debug!!!)
79 - (1): []
80 - (2): i < NUM: not i <= NUM (accessing out-of-bounds; 0000)
81 - (3): int i = 1; since C99 (declaration in for-loop); code in
    standard C library
82
83 ## `min-array-input.c`
84
85 - `array` initializer
86 - designator
87 - What if uninitialized?
88 - input an array
89 - `&numbers[i]`: lvalue
90 - what if `n (NUM)` is known???

```