Lab3: if-else & while
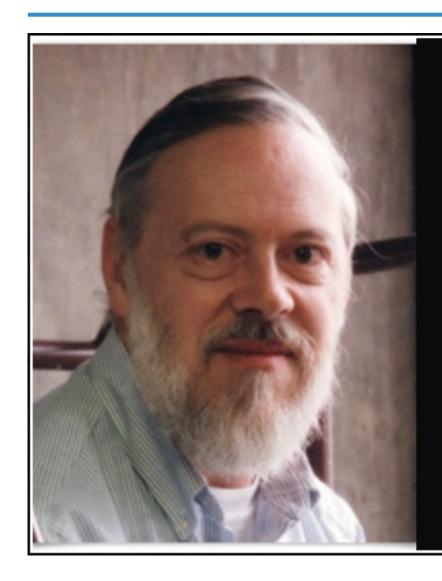
More Practice!

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Let' do more practice!

The only way to learn a new programming language is by writing programs in it.

— Dennis Ritchie —

```cpp
while (true)
    std::cout << "Practice!";
```

Problem

Find smallest of **3** numbers

if-else

Solution

```cpp
1 /**
2 * Find smallest of 3 numbers
3 */
4
5 #include <iostream>
6
7 int main() {
8     // define variables
9     int x1, x2, x3; // numbers
10    int m; // min
11
12    // read numbers
13    std::cout << "Numbers: ";
14    std::cin >> x1 >> x2 >> x3;
15
16    // find min
17
18               ?
19
20
21    // print min
22    std::cout << "Min: " << m << '\n';
23 }
~
~
~
~
~
min_3.cpp                              17,2-3                    All
```

```
> g++ min_3.cpp
> ./a.out
Numbers: 7 3 5
Min: 3
>
!/bin/bash [running]                                  1,1        All
```

Problem

Find smallest of **N** numbers

while, if-else

Solution

```cpp
1  /**
2   * Find smallest of N numbers
3   */
4
5  #include <iostream>
6  #include <climits>
7
8  int main() {
9    // define variables
10   int n = 5; // number
11   int x; // value
12   int m = INT_MAX; // min
13
14   // read numbers and find min
15
16
17
18                 ?
19
20
21
22
23
24   // print min
25   std::cout << "Min: " << m << '\n';
26 }
~
```

```
min_n.cpp                    14,10-11        All
```

```
> g++ min_n.cpp
> ./a.out
Enter 5 numbers:
7
3
5
6
4
Min: 3
>
```

```
!/bin/bash [running]                     1,1        Top
```

Problem

Sum of the **digits** of a number

while, % 10, / 10

Solution

```cpp
/**
 * Sum of the digits of a number
 */

#include <iostream>

int main() {
  // define variables
  int n; // number
  int sum = 0; // sum of digits

  // read number
  std::cout << "Number: ";
  std::cin >> n;

  // find sum

  ?


  // print sum
  std::cout << "Sum of digits: " << sum << '\n';
}
```

sum_digits.cpp   22,13-14   All

```
> g++ sum_digits.cpp
> ./a.out
Number: 73564
Sum of digits: 25
>
```

!/bin/bash [running]   1,1   All