

# C++ Programming

## Division and Modulus

### Homework 2

**Mostafa S. Ibrahim**

*Teaching, Training and Coaching since more than a decade!*

*Artificial Intelligence & Computer Vision Researcher*

*PhD from Simon Fraser University - Canada*

*Bachelor / Msc from Cairo University - Egypt*

*Ex-(Software Engineer / ICPC World Finalist)*



# Problem #1: Is even?

- The following code reads an integer and computes a boolean if the number is even *in 3 different ways*.
- Fill in the `is_even` to solve the problem in 3 ways as following
- Using only `%2`
- Using only `/2`
- Using only `%10`

```
4 int main() {  
5     int num;  
6     cin >> num;  
7  
8     // Is even using %2  
9     bool is_even1 = ?;  
10  
11    // is even using /2  
12    bool is_even2 = ?;  
13  
14    // is even using %10  
15    bool is_even3 = ?;  
16  
17    return 0;  
18 }  
19
```

## Problem #2: Last 3 digits sum

- Write a program that reads an integer and prints the sum of its **last 3 digits**.
- Inputs  $\Rightarrow$  Outputs examples
  - 15  $\Rightarrow$  6
  - 125  $\Rightarrow$  8
  - 1000  $\Rightarrow$  0
  - 1001  $\Rightarrow$  1
  - 1234  $\Rightarrow$  9
  - 99999  $\Rightarrow$  27

## Problem #3: 4th digits from the end

- Write a program that reads an integer and print the 4th from the right side. If no such digit, print 0
- Inputs => outputs
  - 15 => 0
  - 125 => 0
  - 1000 => 1
  - 5001 => 5
  - 1234 => 1
  - 654321 => 4
  - 99999 => 9

*“Acquire knowledge and impart it to the people.”*

*“Seek knowledge from the Cradle to the Grave.”*