

# Python Programming

## Logical Operators

### Homework

**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)*



# Homework 1: Create logic!

- Write a program that reads 3 integers about the class room
  - Number of boys (nb), number of girls (ng), number of teachers (nt)
- Prepare and **print** a boolean variable for these cases:
- nb greater than 25
- ng less than or equal to 30
- $nb > 20$  and  $nt > 2$  or  $ng > 30$  and  $nt > 4$
- Either  $nb < 60$  or  $ng < 70$
- Neither  $nb \geq 60$  nor  $ng \geq 70$
- nb is 10 more students than ng
- Difference between nb and ng is more than 10 or  $nt > 5$
- Either **nb is 10 more students than ng** or **ng is 15 more students than nb**

# Homework 2: Simplify expressions

- For each expression:
  - Manually Simplify it step by step to finally be a T or F
- T and T and F and T
- T and T and F and T or T and T
- T and T and T and T or T and (T or F)
- T and T and T or T and (F or (T and (T and T)))
- T and T or T and F and T or T and T and F or (T and (T or F))
- T and T or T and F and T or (T and T and F or (T and (T or F)))
- (T and T or T and F and T or T) and T and F or (T and (T or F))
- T and T or T and (F and T or T and T) and F or (T and (T or F))

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

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