



# Advanced Programming

## COEN 11

Lab 4



## Lab 4

---

### Surf School Waiting List

- Change lab 3 to use an **array of structs** with **unions**
  - Include a **union** in your **struct**



# Lab 4

---

- Extra information
  - Name
  - Size
  - Max age
    - 1 – Minor, ask for parent or guardian phone number
    - 2 – Senior, ask for age of youngest in group
    - Otherwise – ask for average age of group
  - Extra info, depends on max age
    - <18 – phone of an adult, string
    - >65 – min age, integer
    - Otherwise – Average age of group, float



# Lab 4

---

- Menu -- commands
  - 1
    - Include age category and extra info
  - 2, same
  - 3
    - Need to add ages and extra info
  - 4, same
  - 0, same

Obs: You don't need to change option 2 (delete) unless you are not copying the whole structure when shifting, but copying the string and the number separately. You can copy the structure using '='



# Lab 4

---

- Your program has 1 array of structures
  - Each **struct** has four members
    - name – char array (string)
    - size – integer
    - max age– integer
    - extra\_info – union (type depends on max age)
      - Each **union** has three members
        - » < 18 – phone of an adult, string
        - » > 60 – min age, int
        - » Otherwise – average age, float



# Lab 4

---

- Requirements
  - 1 array of structures
    - one of the members in the **struct** is a **union**
  - Global variables
    - **Array and counter ONLY!**
    - No other global variable is allowed. Points will be taken from your code otherwise.
  - 5 functions, same
    - main, insert, delete, show, check\_size, check\_duplicate



# Lab 4

---

- Programming best practices
  - Use **indentation** and **alignment** to make clear which statements are inside a function, conditional or loop.
  - Declare local variables at the beginning of a function, not in the middle.
  - Do not declare variables as global unless it is absolutely necessary (only the ones I allow you to).
  - Use meaningful names for variable, structures, constants and functions
  - Use comments in your code, but do not comment the obvious.



# Lab 4

---

- No pre-lab this week





---

# End

## Lab 4