

COEN 10

Lab 8

Lab 8 – Ski Lessons

- ❖ Your program schedules ski lessons
- ❖ The ski instructor has lessons at
 - ◆ 1pm, 2pm, 3pm, 4pm, 5pm
- ❖ New
 - ◆ Cannot repeat names
 - ◆ Keep the phone number because of the time changes
 - ◆ Each request can be for one person or for a group of up to 4 people
 - ◆ Use functions!

Lab 8

❖ Interface

◆ The user can use the system to

- Request (1) a lesson
- Cancel (2) a lesson
- List (3) the lessons
- Show names (4) starting with a letter
- Show groups (5) with a number of people
- Quit (9)
- Any other number, report and ignore

Lab 8

❖ Interface

- ◆ Request – enter name, and number
 - If there is a free slot, one slot is reserved under the name given by the user
- ◆ Cancellation – enter name
 - If there is a lesson under that name, cancel the lesson
- ◆ List lessons
 - List all the slots, showing the name and size of the group or "free"
- ◆ Show names – enter letter
 - List all the names that start with the letter.
- ◆ Show names – enter number
 - List all the names in requests with the specified group size
- ◆ Quit
 - Return from the main function

Lab 8

❖ Implementation

◆ Use an array of strings, 5x20

- 5 lessons
- 19 characters for each name

◆ Add:

- string array for the phone numbers
- int array for the sizes

◆ Keep a counter of lessons.

Lab 8

❖ Implementation

◆ Request a lesson

- Read the name
- Read the size of the group and phone number
- If the schedule is full, inform the user
- If the name is used, inform the user
- Otherwise
 - The name is added to the next slot open, indexed by the counter (use strcpy to copy the name)
 - The size and phone number are added to the corresponding element in the other arrays
 - Update the counter

Lab 8

❖ Implementation

◆ Cancellation

- Read a name with scanf into a string variable
- If the schedule is empty, inform the user
- Otherwise
 - Search the name in the array (use strcmp)
 - » Cancel the corresponding element
 - » Shift the names and phones and sizes up to close the opening
 - NEW: Show to the user who is changing times, name and phone number
 - » Place a '\0' in the first character of the last name (indexed by counter – 1)
 - » Update the counter

Lab 8

❖ Implementation

◆ List

- If the schedule is empty, inform the user
- Otherwise, traverse the array, showing for each lesson time, the name, phone number, and group size assigned to each slot or "free"

Lab 8

❖ Implementation

◆ Show names starting with a letter

- If the schedule is empty, inform the user
- Otherwise, read the letter with scanf
- Traverse the array, showing all the names starting with the given letter. Show their lesson time as well.

Lab 8

❖ Implementation

◆ Show names associated with requests for a specified group size

- If the schedule is empty, inform the user
- Otherwise, read the number with scanf
- Traverse the array, showing all the names corresponding to groups with the size specified and their lesson time.

Lab 8

❖ Requirement

◆ Variables

- 3 arrays
- Counter to keep track of the number of lessons

◆ Switch to select the option

◆ Functions:

- Request
- Cancel
- List
- Letter
- Group

Lab 8

❖ You will use C in the Mac or Linux

◆ Use your DC account

- The home directory
- You don't need to do this on the web server

◆ Edit the program using vi in the terminal

- The program needs to be a “.c” file

◆ Compile with gcc

`gcc -o name name.c`

◆ Execute

`./name`

Lab 8

◆ Pre-lab

- Pseudo-code of the group function (option 5)

◆ Demo

- Execute your code on the terminal to the TA

◆ Submit

- Submit the source code to Camino
- Don't forget to put your name on it!