

CS 150 Lab 13

Structs

The purpose of today's lab is for you to get some hands-on experience with Structs!

- **Be sure to answer the given questions before you start**
- Be sure your output looks exactly like the specified output
- Be sure to submit your solution to CS150-02 Drop when you are done (By Friday, Dec 3, 5pm)
- Show the instructor or TA your solution before submitting it

Lab 13.1 Structs.

For this lab, you will need to create a new Visual Studio project that will contain your source code. Name this project "13Lab_1_XXXXXXXX", replacing the XXXXXXXX with your PUNetID.

```
struct courseData
{
    string prefix;    // "CS"
    int number;      // 150
    int credits;     // 4
    bool bMWF,       // true
         bTTH;       // false
    bool bLab;       // true
};
```

Use the following struct to store data about a course at Pacific. Example values are shown as comments.

Use the struct to read information from the user about her **three** courses and display information to the screen. Sample input and output follows, user input is **bold**. Be sure to identify meaningful functions.

SAMPLE INPUT

```
Please enter course 1:
Prefix: HIST
Number: 249
Credits: 4
MWF? N
TTH? Y
Lab? N

Please enter course 2:
Prefix: CS
Number: 150
Credits: 4
MWF? Y
TTH? N
Lab? Y

Please enter course 3:
Prefix: MATH
Number: 226
Credits: 4
MWF? Y
TTH? N
Lab? N
```

SAMPLE OUTPUT

Your schedule:

```
MWF
CS-150 LAB 4 credits
MATH-226 4 credits
```

```
TTH
HIST-249 4 credits
```

You are taking a total of 12 credits.

Challenge ! Arrays, structs, functions!

Rewrite last week's challenge, the image processor, using a struct to hold the red, green, blue value.

Your first task is to define the struct! Show your struct to the instructor or TA before writing any code! Shrink the maximum image size to 128x128 (this image size is big enough for all but the bonfire image from

<http://cms.brookes.ac.uk/staff/SharonCurtis/teaching/archives/fp/imageplay/imagesamples.html>).

Implement the blur functionality defined here before re-implementing the red shift:

http://www.cgafaq.info/wiki/Image_Sharpening_and_Blurring