Lab 3: Part 2. Intelligent Homework Service.

Due date: Monday, October 12, 10:59am.

Lab Assignment

Lab 3 is devoted to the study of conditional statements in C. The lab consists of three parts, each with its own deadline and participation rules:

Part	Assignment	Starts	Due	Participation
Part 1	Simple programs	October 5 (Monday)	October 6 (Tuesday)	*Pair programming*
Part 2	IHS if-statement zones	October 7 (Wednesday)	October 12 (Monday)	*Individual*
Part 3	Lab 2 rewrites	October 12 (Monday)	October 16 (Friday)	*Pair programming*

Assignment Preparation

READ THE INSTRUCTIONS FIRST. Please read this document completely **before** you start your work. This document explains to you how to use IHS, the Intelligent Homework Service system, which will provide you with a multitude of assignments for this lab, some future labs, and for the lab tests in this course.

Lab type. Part 2 of the lab is an **individual assignment**.

Collaboration. No collaboration is allowed.

Purpose. The lab allows you to practice the use of conditional statements. It also facilitates learning the use of boolean expressions as conditions in `if` and `switch` statements.

Programming Style. Unlike most other lab assignments, your use of the IHS system is NOT subject to programming style rules. Your submissions are automatically graded based on their correctness, and the grading program does not check for style. More importantly, since you will be writing only **fragments**, no complete C programs, there is no need to enforce style rules.

The Task

This assignment prepares you for the Lab Test 1, which will take place on Monday, October 12 during our lab period. You will use IHS, an on-line system for delivery of programming exercises and you will complete one set of assignments available to you through this system.

IHS, the Intelligent Homework Service

The Intelligent Homework Service (IHS) is located at the following URL:

http://ihs.dynalias.com/IHS

There is a student help web page located at

http://ihs.dynalias.com/IHS/Docs/StudentManual.html

Both pages are linked to from the course web page. Before starting your work on this assignment, please **read carafully** the instructions on this page, as well as the explanatory notes on the problems you will be working on, located at

http://ihs.dynalias.com/IHS/Docs/IfGridExpl.html

IHS Account Information

To work with the IHS website, you need to have an account. The procedure for getting one is outlined below.

Step 1. Open a web browser. Type

http://ihs.dynalias.com/IHS

(or visit the course home page and follow the link from there.)

Step 2. The front page of IHS simply gives you an opportunity of to log in. Since you do not have an account yet, follow the `"Register as a student or teacher"` link.

Step 3. Fill in the form that opens as follows:

Field	Information
`Login (email)`	Enter your CalPoly email address
`First Name`	enter your first name (as it is on your student ID
`Last Name`	enter your last name
`Password`	select a password
`Confirm Password`	retype your password
`Register as a student`	check this button
`Register as a teacher`	*leave unchecked*
`Permission Code (for teachers)`	*leave blank*
`Student ID (for students)`	enter your student ID (from your Cal Poly ID card)

Once you fill the form, hit the `"Register Me"` button. If you submitted proper information and your passwords match, an account will be generated, and you will be taken to the *workbook registration* screen.

Workbook Registration

IHS is designed to support multiple courses. A collection of assignments for a single course is called a **workbook**. In order to start working on your CPE 101 assignments you need to sign up for the CPE 101 workbook on IHS.

Step 4. (continued from above) After your account is created, you will be taken to workbook enrollment screen. Fill out the form as follows:

Field	Instruction
`Email of workbook instructor`	Enter `"dekhtyar@calpoly.edu"` (no quotes)
`Workbook name`	Enter `"CPE 101 Workbook"` (no quotes)
`Workbook code`	*see instructions below*

Workbook code. Workbook codes are designed to ensure that only students enrolled in the course access the workbooks. Workbook codes are generated by the instructors and are handed out to you. Each of you will receive your workbook code together with this assignment.

A typical workbook code is a phrase (e.g., "surefooted but incoherent" or "singularity and tresspass"). Each code will be given to exactly one student and can be used to register for a workbook exactly once. Once the code is used to register for a workbook it expires. The codes are tied to the instructor's email address and the workbook name: your codes will work only with the instructor name and workbook name shown in the table above.

Work on Assignments

Step 5. Once you are successfully registered for the CPE 101 workbook, you will see a web page that lists the contents of the workbook for you. Currently, the workbook has four assignments in it:

Assignment	Explanation
1. If Grids – Exam	Lab Test 1
2. Loop Grids – Exam	Lab Test 2
3. If Grids – Homework	Lab 3 Part 2 (this lab)
4. Loop Grids – Homework	Preparation for Lab Test 2

Assignments 1 and 2 are your lab tests. Access to them is available only via another access code (similar to your workbook code), which will be given to each of you at the beginning of the appropriate test.

Assignments 3 and 4 are designed as lab test preparation assignments. For this lab, you will be working on assignment 3, "If Grids – Homework".

Follow the "Work on this assignment" link for the "If Grids – Homework" assignment.

Step 6. You will see the page detailing the If-Grids assignment. When you access this page first, the following information will be displayed:

#	Problem description	Pts	Next Try allowed	Attempts
1	Warmup If-Statement Grid problem.	100	Any time	0
2	Basic If-Statement Grid problem.	100	Any time	0
3	Basic Plus If-Statement Grid problem.	100	Any time	0
4	C Level If-Statement Grid problem.	100	Any time	0
5	C Level Advanced If-Statement Grid problem.	100	Any time	0
6	B Level If-Statement Grid problem.	100	Any time	0
7	A Level If-Statement Grid problem.	100	Any time	0
8	Extra Credit If-Statement Grid problem.	100	Any time	0
9	Extra Credit Plus If-Statement Grid problem.	100	Any time	0
10	Extra Credit for the Crazy If-Statement Grid problem.	100	Any time	0

There will also be a `"Work on current attempt"` link next to each part of the assignment.

If Statement Grids

Read the description of the If Statement Grids assignment located at

http://ihs.dynalias.com/IHS/Docs/IfGridExpl.html

and make sure you understand the example.

Please note the following:

- When you are working on a specific problem, you are expected to write **only the if statements**. There is no need to declare variables, and do other things.
- When you are working on a specific problem, the assignment instructions will contain the names and the types of all variables that you need to use in your code fragments. You are not expected to declare/use any other variables.

Problem Tiers

The If Statement Grids assignment has 10 problem tiers, listed on the assignment page (see Step 6). To complete each tier, you will need to correctly solve two problems. Each tier contains problems of a specific level of difficulty. The "Warmup" tier (tier 1) contains the simples if statement grids, and each following tier adds a wrinkle or two (more colors, more complex patterns, overlap, non-rectangular shapes) to the patterns that you are given.

You only need to solve problems in a tier once. However, you may always revisit the tiers that you have completed for a extra dose of practice.

Please note, that all problems you receive on all tiers are randomly genreated and no two problems are the same.

To complete this assignment you must complete the following tiers:

1. Tier 1. Warmup If-Statement Grid problem.
2. Tier 2. Basic If-Statement Grid problem.
3. Tier 3. Basic Plus If-Statement Grid problem.

4. Tier 4. C Level If-Statement Grid problem.
5. Tier 5 C Level Advanced If-Statement Grid problem.

Grading

You **must** complete the first five tiers, otherwise you fail this assignment.

Complete the five first tiers of the assignment for 80% of the credit (or a percentage thereof as indicated by the automated grading tool).

Complete tier 6, B Level If-Statement Grid problem. for 100% of the credit.

Complete tier 7, A Level If-Statement Grid problem for extra 20% of the credit.

Complete tiers 7, 8, 9, 10, for extra 20% of the credit each.

Complete all 10 tiers and get a bonus 20% for a whooping 200% of the credit for the entire assignment.

To receive proper credit for your work, your assignments must be completed by the beginning of the class period on Monday, October 12.