Object Oriented Programming Lab

Lab 00A **Marks 00**

Instructions

Work on this lab individually. You can use your books, notes, handouts etc. but you are not allowed to borrow anything from your peer student.

Marking Criteria

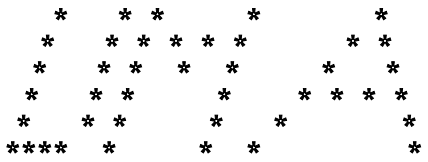
Show your work to the instructor before leaving the lab to get some or full credit.

What you must do

Program the following tasks in your C++ compiler and then compile and execute them.

Task 1

Write a program that **prints** your **name initials** to standard output in letters that are **nine lines tall**. Each big letter should be made up of a bunch of *'s. For example, if your initials were "UMA", then the output would look something like:



Task 2

Write a program that asks the user to **enter two numbers**. The program should use the **conditional operator** to determine which number is the **smaller** and which is the **larger** and display them in their **ascending order**.

Task 3

Write a program that asks the user to **enter a number** within the range of **1 through 10**. Use a **switch statement** to display the **Roman numeral** version of that number. Do not accept a number **less than 1 or greater than 10**.

Task 4

The **area of a rectangle** is the **rectangle's length times its width**. Write a program that asks for the **length and width** of **two rectangles**. The program should tell the user which rectangle has **the greater area**, or if the **areas are the same**.

Task 5

Write a program that asks the user to **enter a few seconds**.

- There are **60 seconds** in a **minute**. If the **number of seconds** entered by the user is **greater than or equal to 60**, the program should display the **number of minutes** in that **many seconds**.
- There are **3,600 seconds** in an **hour**. If the **number of seconds** entered by the user is **greater than or equal to 3,600**, the program should display the **number of hours** in that **many seconds**.
- There are **86,400 seconds** in a **day**. If the **number of seconds** entered by the user is **greater than or equal to 86,400**, the program should display the **number of days** in that **many seconds**.

Task 6

The following table shows the approximate **speed** of **sound in air**, **water**, and **steel**.

Medium	**Speed**
Air	1,100 feet per second
Water	4,900 feet per second
Steel	16,400 feet per second

Write a program that displays a **menu** allowing the user to select **1 for air**, **2 for water**, or **3 for steel** and display a message **"Wrong choice"** otherwise. After the user has selected, he or she should be asked to **enter the distance** a sound wave will travel in the selected medium. The program will then display the **amount of time** it will take by rounding the answer to **four decimal** places.

☺ ☺ ☺ **BEST OF LUCK** ☺ ☺ ☺