Note: Must include default, constructor with parameter and destructor for each class. Follow the C++ style guidelines provided to you on slate.

Task # 01 (10 points)

Write the definition of a class, **swimmingPool**, to implement the properties of a swimming pool. Your class should have the instance variables to store the length (in feet), width (in feet), depth (in feet), the rate (in gallons per minute) at which the water is filling the pool, and the rate (in gallons per minute) at which the water is draining from the pool.
Add appropriate constructors to initialize the instance variables. Also add member functions to do the following: determine the amount of water needed to fill an empty or partially filled pool; determine the time needed to completely or partially fill or empty the pool; add or drain water for a specific amount of time.

Task # 02 (10 points)

Create a class called time that has separate int member data for hours, minutes, and seconds. One constructor should initialize this data to 0, and another should initialize it to fixed values. Another member function should display it, in 11:59:59 format. Print out the total number of seconds represented by this time value:
totalsecs = t1.hours*3600 + t1.minutes*60 + t1.seconds

The final member function should add two objects of type time passed as arguments.
A **main()** program should create two initialized time objects (should they be const?) and one that isn't initialized. Then it should add the two initialized values together, leaving the result in the third time variable. Finally it should display the value of this third variable. Make appropriate member functions const.

Task # 03 (10 points)

Create a CLASS of type **date** that contains three members: the month, the day of the month, and the year, all of type int. (Or use day-month-year order if you prefer.) It should also have two member functions: inputDate(), which allows the user to enter a date in 12/31/02 format, and showDate(), which displays the date.

Task # 04 (10 points)

Create an employee class, member data should comprise an int for storing the employee number, name for storing name, an array of four phone numbers of employee, and a float for storing the employee's compensation. Member functions should include inputData, update and print. Write a **main()** that allows the user to enter data for an array of three employees and display it. Write a function **Max** outside the class having one parameter (an array of employee objects) that will return the name of employee having maximum compensation.

Task # 05 (10 points)

Extend the employee class of TASK#04 so that it should have an object of **date** class as private member. Now revise all member functions of employee class to include date object of **date** class.