

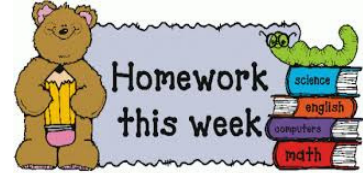
## Homework 05

**Due Date:** Monday 24 February 2014 11:59 PM MST

**Note:** If you submit after the due date (but before the hard deadline), your submission score will be penalized by 20%.

**Hard Deadline:** Wednesday 26 February 2014 11:59 PM MST

**Note:** If you submit any time after the hard deadline, you will not receive credit.

**Problem 01 (15 points)**

Another weakness of C++ is that it does not automatically check array indexes to see whether they are in bounds. (This makes array operations faster but less safe.) We can use a class to create a safe array that checks the index of all array accesses. Write a class called `safearray` that uses an `int` array of fixed size (call it `LIMIT`) as its only data member. There will be two member functions. The first, `putel()`, takes an index number and an `int` value as arguments and inserts the `int` value into the array at the index. The second, `getel()`, takes an index number as an argument and returns the `int` value of the element with that index.

```
safearray sa1; // define a safearray object
int temp = 12345; // define an int value
sa1.putel(7, temp); // insert value of temp into array at index 7
temp = sa1.getel(7); // obtain value from array at index 7
```

Both functions should check the index argument to make sure it is not less than 0 or greater than `LIMIT-1`. You can use this array without fear of writing over other parts of memory. Using functions to access array elements doesn't look as eloquent as using the `[]` operator. In Chapter 8 we'll see how to overload this operator to make our `safearray` class work more like built-in arrays.

**Problem 02 (15 points)**

Write a function called `eraseSubstring` that erases the sequences "by" and "BY" from a string. The function prototype is as follows:

```
void eraseSubstring(string& input, string substr);
```

Where "input" is the input string and "substr" is the substring that should be erased from the input string. In this problem, substr should be "by" and "BY".

Write a main program to ask the user to input a string. Then call the above function to erase the substrings from the input string, and display the result.