COP 4530 Term Exam 3   Name:
Fall 2001   SSN:
Professor Chris Lacher   CS Username:
                              Score: /100

This test contains 5 questions on 2 pages. Each question is worth 20 points.

1. The following are possible operations for a position-oriented container class (a pContainer). Mark each possibility with "D", "L", and/or "V" to show whether the operation is part of the public interface of `TDeque<T>`, `TList<T>`, and/or `TVector<T>`. (In these operations, `t` represents an object of type `T`, `I` represents an Iterator associated with the container, and `n` is an integer type. An operation must have the correct "DLV" code for credit.)

    ```
    PushBack(t)                    PushFront(t)
    PopBack()                      PopFront()
    Back()                         Front()
    Insert(I,t)                    Remove(I)
    Empty()                        Size()
    SetSize(n)                     operator [] (n)
    ```

2. Complete the implementation of the following function that uses a local stack variable to reverse the contents of the queue passed as a reference parameter: (*Hint*: use two loops.)

    ```
    void Reverse (CQueue<T>& Q)
    {
       CStack<T> S;



    }
    ```

3. Use a generic algorithm to copy `n` elements of the array `A` to the vector `V`. (You may assume that `V.Size() >= n`. Only one line of code is needed.)

4. Define a function class that converts a type `char` parameter, passed by reference, to lower case:

```
class MakeLowerCase
{




















};
```

5. Use a `MakeLowerCase` object and a generic algorithm to convert all alpha characters in the deque `D` to lower case:

```
TDeque <char> D;
// code to define D goes here
...
...
...
// convert all alpha in D to lower case
// write your answer here (only two lines of code):
```