Practice Lab Assignment 6

Lab Exercise on STACKS

1. Implement a stack using linked list. Use the following operations on it: PUSH 9, PUSH 5, PUSH 20, POP, PUSH 6, POP, PUSH 10. Print the stack contents now.

2. Add two numbers using 3 stacks. First write a program for numbers **which do not generate a carry** on addition such as 312+74. Read the digits of first number and push them one by one in stack 1. Read the digits of second number and push them one by one in stack 2. Now pop one digit from each stack, add them and push the result in stack 3. If one stack is empty, simply transfer the digit of other stack to stack 3. When both stacks are empty, pop stack 3 and print the digits in the same order.

In this example, push digit 3, then digit 1 and then digit 2 in stack 1. In stack 2, push digit 7 and then digit 4. Now Pop digits from both stacks, add them and push the result digit 6 in stack 3. Again pop digits from both stacks, add and push the result 8 in stack 3. When you pop for the third time, stack 2 is empty, so simply push digit 3 in stack 3. Your result of addition is now ready in stack 3. Pop the digits 3, 8 and 6 and print them in same order.

Now try addition with other numbers like 1243+511.