1) Write the program code that initialize and implement the stack from scratch. You have an option to implement either through array or link list. You should write the code to implement **push()** , **pop()** and **display_value()** function. **display_value()** function will print the push or pop value. Modify the written program to implement following functions.

(5+5)

1. The program should input the string of characters from user (e.g. like your name or registration number) and print it on screen. Then utilize the stack to print the sequence in reverse order.
2. The program should input mathematical expression from user and check whether parentheses in a mathematical expression are balanced or not. You can input mathematical expression in an array of characters.

Note: For above implementations practice only stacks.

2) Viva   (10)