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21CEUOS101
Lab01
CC

CODE :

```
public static void main(String args[])
{
    Scanner sc = new Scanner(System.in);

    String query = sc.next();

    // System.out.println(rec(query));

    Stack<Character> st = new Stack<>();
    StringBuilder ans = new StringBuilder();
    int i = 0;

    while(i<query.length())
    {
        if(query.charAt(i) >= 'a' && query.charAt(i) <= 'z')
        {
            ans.append(query.charAt(i));
        }
        else
        {
            while(!st.isEmpty() && precedence(query.charAt(i)) <
precedence(st.peek()))
            {
                Character operator = st.pop();

                ans.append(operator);
            }

            if(query.charAt(i) != '(' && query.charAt(i) != ')')
            {
                st.push(query.charAt(i));
            }
        }
    }
}
```

```

        i++;
    }
    while(!st.isEmpty())
    {
        ans.append(st.pop());
    }
    System.out.println(ans.toString());

    printQuadrupleTable(ans.toString());
}

public static int precedence(Character c)
{
    return c == '(' ? 9 : c == '^' ? 3 : c == '*' || c == '/' ? 2 : c ==
'+' || c == '-' ? 1 : -1;
}

public static void printQuadrupleTable(String ans)
{
    Stack<Character> st = new Stack();

    String result = ans.substring(0,1);

    System.out.println("Operand1 " + "|" + "Operand2 " + "|" +
"Operator|" + "Result");
    for(int i=1;i<ans.length();i++)
    {
        if(ans.charAt(i) >= 'a' && ans.charAt(i) <= 'z')
        {
            st.push(ans.charAt(i));
        }
        else
        {
            String operand1 = result;
            Character operand2 = st.pop();

            result = ans.substring(0,i+1);
            System.out.println(operand1 + "\t|" + operand2 + "\t|" +
ans.charAt(i) + "\t|" + result);

```

```

    }
}
}

```

Results :

```

@21CEU0S101 → /workspaces/CC_Lab_Sem7 (main) $ cd
ceptionMessages -cp /home/codespace/.vscode-remote,
a+(b*c)+d
abc*+d+
Operand1 |Operand2 |Operator |Result
a        |c        |*        |abc*
abc*     |b        |+        |abc*+
abc*+    |d        |+        |abc*+d+
@21CEU0S101 → /workspaces/CC_Lab_Sem7 (main) $ █

```