DYNAMIC SQL QUERIES

Adding new data:

```
public static String AddData(String[] input,String[] attributes,String table){
   int num_attributes = 0;
   String output = "";
   for(int i =1;i<attributes.length;i++){
         if(!attributes[i].equals("NULL")){
               num_attributes++;
         }
   }

   String query = "INSERT INTO " + table + " VALUES (";
   int count = 0;
   for(int i = 0;i<num_attributes;i++){
         if(!input[i].equals("")){
               if(count ==0){
                     query += "'"+input[i]+"'";
                     count+=1;
               }else{
                     query += ","+"'"+input[i]+"'";

               }
         }else{

               return ("Wrong Input : Fill in all the entities");
         }
   }
   query+=")";

   System.out.println(query);

   try(
               Connection con = DBconnection.getConnection();
               Statement stmt = con.createStatement();

   ) {
         stmt.executeUpdate(query);
         System.out.println("successfully inserted");
         output = "successfully inserted";

   } catch (SQLException e) {
```

```
            output = "Wrong input";
            e.printStackTrace();
        }


        return output;
    }
```

1) **input =** [“Modi”,”2018212”,”Solo Dance”,”101”,””,””,]
   attributes = [“judges”,”name”,”point_of_contact”,”event”,”fee”,”NULL”,”NULL”,”NULL”]
   table = “judges”

2) **input =**
   [“2018403”,”PrutyayGautam”,”Music”,”Acapella”,”prutyay18403@iiitd.ac.in”,”8839019621”,”2017006”]
   attributes =
   [“organizing_team”,”roll_no”,”name”,”dept”,”event”,”email”,”contact”,”respective_OC”]
   table = “organizing_team”

Selecting data:

```
public static String SelectData(String[] input,String[] attributes,String table){
    int num_attributes = 0;

    for(int I =1;i<attributes.length;i++){
        if(!attributes[i].equals(“NULL”)){
            num_attributes++;
        }
    }

    String query = “SELECT * FROM “ + table ;
    String output = “”;
    int count = 0;
    System.out.println(query);

    for(int I = 0;i<num_attributes;i++){
        if(!input[i].equals(“”)){
            if(count == 0){
                query += “ WHERE “ + attributes[i+1] + “ = “ + “’” + input[i] + “’”;
                count+=1;
            }
```

```
            else{
                count+=1;
                query += " AND " + attributes[i+1] + " = " + "'" + input[i] + "'";
            }
        }
}
System.out.println(query);
try(
            Connection con = Dbconnection.getConnection();
            Statement stmt =    con.createStatement(ResultSet.TYPE_SCROLL_INSENSITIVE,
                                                    ResultSet.CONCUR_READ_ONLY);
            ResultSet rs = stmt.executeQuery(query);

) {

        int[] spaces = new int[num_attributes];
        for(int I = 0;i<num_attributes;i++){
            if(attributes[i+1].length()>spaces[i]){
                spaces[i] = attributes[i+1].length();
            }
        }
        while(rs.next()){

            for(int I = 0;i<num_attributes;i++){

                if(rs.getString(attributes[i+1]).length()>spaces[i]){
                    spaces[i] = rs.getString(attributes[i+1]).length();
                }
            }

        }
        int total = 0;
        for(int I = 0;i<num_attributes;i++){
            System.out.print( spaces[i] + " ");
            total+=spaces[i];
        }
        rs.beforeFirst();
        for(int I = 0;i<num_attributes;i++){
            output+=attributes[i+1] + "";
            for(int j=0;j<spaces[i]-attributes[i+1].length();j++){
                output+=" ";
            }
            output+="|";
        }
```

```
            output+="\n";
            for(int I = 0;i<total;i++){
                output+="-";
            }

            output+="\n";
            while(rs.next()){

                for(int I = 0;i<num_attributes;i++){
                    output+= rs.getString(attributes[i+1]) + "";
                    for(int j=0;j<spaces[i]-rs.getString(attributes[i+1]).length();j++){
                        output+=" ";
                    }
                    output+="|";
                }
                output+="\n";

            }


        } catch (SQLException e) {
            output = "Wrong input";
            e.printStackTrace();
        }

        return output;
    }
```

3) **input =** ["16WTG","","","","","","",""]
   attributes = ["events","name","dept,prizes","status","location","NULL","NULL"]
   table = "events"

4) **input =** ["","","Solo Dance","","delhi college of arts and commerce","",""]
   attributes = ["participants","id","name","event","status","college","contact","NULL"]
   table = "participants"

Deleting data:

```
    public static String DeleteData(String[] input,String[] attributes,String table){

        int num_attributes = 0;
```

```
        for(int i =1;i<attributes.length;i++){
            if(!attributes[i].equals("NULL")){
                num_attributes++;
            }
        }

        String query = "DELETE FROM " + table ;
        String output = "";
        int count = 0;

        for(int i = 0;i<num_attributes;i++){
            if(!input[i].equals("")){
                if(count == 0){
                    query += " WHERE " + attributes[i+1] + " = " + "'" + input[i] + "'";
                    count+=1;
                }
                else{
                    count+=1;
                    query += " AND " + attributes[i+1] + " = " + "'" + input[i] + "'";
                }
            }
        }
        System.out.println(query);
        try(
                Connection con = DBconnection.getConnection();
                Statement stmt = con.createStatement();

        ) {
            stmt.executeUpdate(query);
            output = "successfully deleted";
            System.out.println("successfully deleted");

        } catch (SQLException e) {
            output = "Wrong input";

        }


        return output;
    }
```

5) **input =** [“”,” tanishq”,””,””,””,””,””]
attributes = [“participants”,”id”,”name”,” event”,”status”,”college”,”contact”,”NULL”]
table = “participants”

6) **input =** [“”,””,””,””,””,””,”NULL”,””]
attributes =
[“requirements”,”id”,”name”,”total_Reqd”,”available”,”events”,”purpose”,”vendor”]
table = “requirements”

Updating data:

```
public static String UpdateData(String[] input_condition,String[] input_update,String[] attributes,String table){
        int num_attributes = 0;

        for(int i =1;i<attributes.length;i++){
            if(!attributes[i].equals("NULL")){
                num_attributes++;
            }
        }

        String query = "UPDATE " + table + " SET ";
        String output = "";
        int count = 0;


        for(int i = 0;i<num_attributes;i++){
            if(!input_update[i].equals("")){
                if(count == 0){
                    query += attributes[i+1] + " = '" + input_update[i] + "'";
                    count += 1;
                }else{
                    query += ", " + attributes[i+1] + " = '" + input_update[i] + "'";

                }
            }
        }
        count = 0;
        for(int i = 0;i<num_attributes;i++){
            if(!input_condition[i].equals("")) {

                if (count == 0) {
```

```
                    query += " WHERE " + attributes[i+1] + " = '" + input_condition[i] + "'";
                    count += 1;
                } else {
                    query += " AND " + attributes[i+1] + " = '" + input_condition[i] + "'";
                }
            }
        }
        System.out.println(query);

        try(
                Connection con = DBconnection.getConnection();
                Statement stmt = con.createStatement();

        ) {
            stmt.executeUpdate(query);
            output += "successfully updated";

        } catch (SQLException e) {
            output = "Wrong input";

        }

        return output;
    }
```

7) **input_condition = [“”,”Ninette Gatch”,”Reverbe”,””,””,””,””]**
   input_update = [“”,””,””,”False”,””,””,””]
   attributes = [”contacts”,“id”,”name”,”dept”,”status”,”college”,”contacted_by”,”NULL”]
   table = “contacts”

8) **input_condition = [“”,”Devinne Phelipeau”,””,””,””,””,””]**
   input_update = [“”,””,””,””,””,”5000”,””]
   attributes = [“associates” ,“id”,”name”,”institute”,”incharge_OC”,”timings”,”fee”,”NULL”]
   table = “associates”