Contact

```java
package com.contact;
public class Contact {
    private int id;
    private String nom;
    private String prenom;
    private String numero;
    public Contact(int id, String nom, String prenom, String numero) {
        this.id = id;
        this.nom = nom;
        this.prenom = prenom;
        this.numero = numero;
    }
    public int getId() {       return id;    }
    public void setId(int id) {       this.id = id;    }
    public String getNom() {       return nom;    }
    public void setNom(String nom) {       this.nom = nom;    }
    public String getPrenom() {       return prenom;    }
    public void setPrenom(String prenom) {       this.prenom = prenom;    }
    public String getNumero() {       return numero;    }
    public void setNumero(String numero) {       this.numero = numero;    }

    @Override
    public String toString() {
        return nom  + ' ' + prenom + '(' + numero+')';
    }
}
```

SQLiteContact

```java
package com.contact;
//imports
public class SQLiteContact extends SQLiteOpenHelper {
    public SQLiteContact(Context context, String name, SQLiteDatabase.CursorFactory factory,
                 int version) {
        super(context, name, factory, version);
    }
    @Override
    public void onCreate(SQLiteDatabase db) {
        String Sql="create table contact (id INTEGER PRIMARY KEY AUTOINCREMENT, nom text NOT
NULL,prenom text not null,numero text not null );";
        db.execSQL(Sql);
    }
    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {
    }
}
```

MainActivity

package com.contact;
//imports

```java
public class MainActivity extends AppCompatActivity {
    private static final int ACTION_AJOUT = 1;
    private static final int ACTION_MODIFICATION = 1;
    private static final int ACTION_SUPPRESSION = 1;
    private TextView tvNbContact;
    private Button btnAjout;
    private Button btnSuppression;
    private EditText edFiltre;
    private ListView lstContact;
    private ArrayAdapter<Contact> adpContact;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        initActivity();
    }

    private void initActivity() {
        tvNbContact=findViewById(R.id.tvNbContacts);
        btnAjout=findViewById(R.id.btnAjout);
        btnSuppression=findViewById(R.id.btnSuppression);
        edFiltre=findViewById(R.id.edFiltre);
        lstContact=findViewById(R.id.lstContact);
        adpContact=new ArrayAdapter<Contact>(this, android.R.layout.simple_list_item_1);
        lstContact.setAdapter(adpContact);
        remplir();
        ajouterEcouteurs();
    }

    private void ajouterEcouteurs() {
        btnAjout.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {          ajouter();          }       });

            btnSuppression.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {          supprimer();          }       });
        edFiltre.addTextChangedListener(new TextWatcher() {
            @Override
            public void beforeTextChanged(CharSequence s, int start, int count, int after) {
            }
            @Override
            public void onTextChanged(CharSequence s, int start, int before, int count) {
            }
            @Override
            public void afterTextChanged(Editable s) {          remplir();          }       });
        lstContact.setOnItemLongClickListener(new AdapterView.OnItemLongClickListener() {
            @Override
            public boolean onItemLongClick(AdapterView<?> parent, View view, int position, long id) {
                modifier(position);
                return false;
            }
        });
    }
```

```java
private void remplir() {
    String filtre=edFiltre.getText().toString();
    SQLiteContact b = new SQLiteContact(this, "Contact.db", null, 1);
    SQLiteDatabase db = b.getWritableDatabase();
    String sql="Select * From contact Where nom like ? or prenom like ? or numero like ? order by nom asc";
    Cursor c = db.rawQuery(sql, new String[]{"%"+filtre+"%","%"+filtre+"%","%"+filtre+"%"});
    adpContact.clear();
    while (c.moveToNext()) {
        int id = c.getInt(0);
        String nom = c.getString(1);
        String prenom = c.getString(2);
        String numero = c.getString(3);
        Contact contact= new Contact(id, nom, prenom,numero);
        adpContact.add(contact);
    }
    tvNbContact.setText(adpContact.getCount()+"");
}
private void ajouter() {
    Intent i=new Intent(this,Ajout.class);
    startActivityForResult(i,ACTION_AJOUT);
}
private void modifier(int position) {
    Contact c=adpContact.getItem(position);
    Intent i=new Intent(this,Modification.class);
    i.putExtra("id",c.getId());
    i.putExtra("nom",c.getNom());
    i.putExtra("prenom",c.getPrenom());
    i.putExtra("numero",c.getNumero());
    startActivityForResult(i,ACTION_MODIFICATION);
}


private void supprimer() {
    Intent i=new Intent(this,Suppression.class);
    startActivityForResult(i,ACTION_SUPPRESSION);
}

@Override
protected void onActivityResult(int requestCode, int resultCode, @Nullable Intent data) {
    if(resultCode==RESULT_OK)
        remplir();
    super.onActivityResult(requestCode, resultCode, data);
}
}
```

Ajout

```java
public class Ajout extends AppCompatActivity {
    private EditText edNom;
    private EditText edPrenom;
    private EditText edNumero;
    private Button btnAjouter;
    private Button btnAnnuler;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_ajout);
        initActivity();
    }
    private void initActivity() {
        edNom=findViewById(R.id.edNom);
        edPrenom=findViewById(R.id.edPrenom);
        edNumero=findViewById(R.id.edNumero);
        btnAjouter=findViewById(R.id.btnAjouter);
        btnAnnuler=findViewById(R.id.btnAnnulerA);
        ajouterEcouteurs();
    }
    private void ajouterEcouteurs() {
        btnAjouter.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {         ajouter();         }     });
        btnAnnuler.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {         annuler();         }     });
    }
    private void ajouter() {
        SQLiteContact b = new SQLiteContact(this, "Contact.db", null, 1);
        SQLiteDatabase db = b.getWritableDatabase();
        ContentValues v = new ContentValues();
        v.put("nom", edNom.getText().toString());
        v.put("prenom", edPrenom.getText().toString());
        v.put("numero", edNumero.getText().toString());
        db.insert("contact", null, v);
        db.close();
        setResult(RESULT_OK);
        finish();
    }
    private void annuler() {
        setResult(RESULT_CANCELED);
        finish();
    }
}
```

Suppression

```java
public class Suppression extends AppCompatActivity {
    private Spinner spContact;
    private Button btnSupprimer;
    private Button btnAnnuler;
    private ArrayAdapter<Contact>adpContact;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_suppression);
        initActivity();
    }
    private void initActivity() {
        spContact=findViewById(R.id.spContact);
        btnSupprimer=findViewById(R.id.btnSupprimer);
        btnAnnuler=findViewById(R.id.btnAnnulerS);
        adpContact=new ArrayAdapter<Contact>(this, android.R.layout.simple_spinner_item);
        spContact.setAdapter(adpContact);
        remplir();
        ajouterEcouteurs();
    }
    private void remplir() {
        SQLiteContact b = new SQLiteContact(this, "Contact.db", null, 1);
        SQLiteDatabase db = b.getWritableDatabase();
        String sql="Select * From contact  order by nom asc";
        Cursor c = db.rawQuery(sql, null);
        adpContact.clear();
        while (c.moveToNext()) {
            int id = c.getInt(0);
            String nom = c.getString(1);
            String prenom = c.getString(2);
            String numero = c.getString(3);
            Contact contact= new Contact(id, nom, prenom,numero);
            adpContact.add(contact);
        }
    }
    private void ajouterEcouteurs() {
        btnSupprimer.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {            supprimer();        }    });
        btnAnnuler.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {            annuler();        }    });
    }
    private void supprimer() {
        Contact c= (Contact) spContact.getSelectedItem();
        int id=c.getId();
        SQLiteContact b = new SQLiteContact(this, "Contact.db", null, 1);
        SQLiteDatabase db = b.getWritableDatabase();
        db.delete("contact", "id=?", new String[]{id+""});
        db.close();
        setResult(RESULT_OK);
        finish();
    }

    private void annuler() {
        setResult(RESULT_CANCELED);
        finish();
    }
}
```

Modification

```java
package com.contact;
public class Modification extends AppCompatActivity {
    private EditText edNom;
    private EditText edPrenom;
    private EditText edNumero;
    private Button btnModifier;
    private Button btnAnnuler;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_modification);
        initActivity();
    }
    private void initActivity() {
        edNom=findViewById(R.id.edNomM);
        edPrenom=findViewById(R.id.edPrenomM);
        edNumero=findViewById(R.id.edNumeroM);
        btnModifier=findViewById(R.id.btnModifier);
        btnAnnuler=findViewById(R.id.btnAnnulerM);
        remplirChamps();
        ajouterEcouteurs();
    }
    private void remplirChamps() {
        edNom.setText(getIntent().getStringExtra("nom"));
        edPrenom.setText(getIntent().getStringExtra("prenom"));
        edNumero.setText(getIntent().getStringExtra("numero"));
    }
    private void ajouterEcouteurs() {
        btnModifier.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {          modifier();        }      });
        btnAnnuler.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {          annuler();        }      });
    }
    private void modifier() {
        int id=getIntent().getIntExtra("id",0);
        SQLiteContact b = new SQLiteContact(this, "Contact.db", null, 1);
        SQLiteDatabase db = b.getWritableDatabase();
        ContentValues v = new ContentValues();
        v.put("nom", edNom.getText().toString());
        v.put("prenom", edPrenom.getText().toString());
        v.put("numero", edNumero.getText().toString());
        db.update("contact", v,"id=?",new String[]{id+""});
        db.close();
        setResult(RESULT_OK);
        finish();
    }
    private void annuler() {
        setResult(RESULT_CANCELED);
        finish();
    }
}
```