

안드로이드 프로그래밍

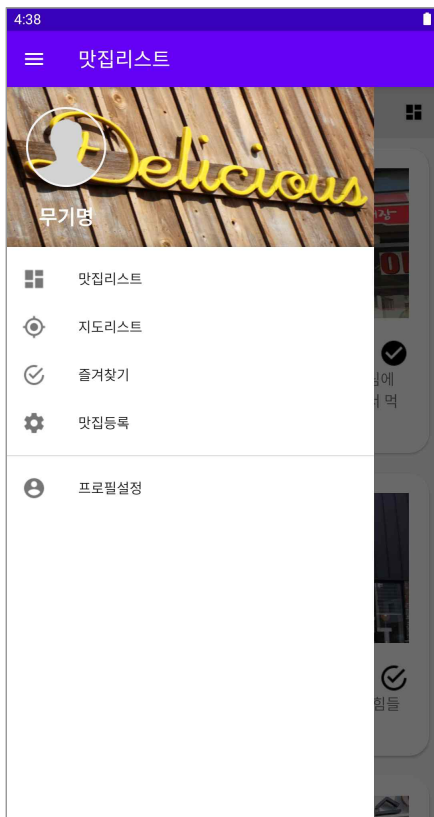
(미니 프로젝트)

• 베스트푸드 앱 소개

• 시작화면



• 왼쪽 메뉴




• 맛집 리스트

4:38


≡ 맛집리스트

거리순 인기순 최근순



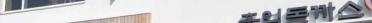
명태어장 ✓

밀반찬도 잘나오고 콩나물은 그냥 먹어도 되고 명태조림에 넣어서 비벼먹으면 더 맛있고 구운김에 명태조림을 싸서 먹어요.



선식당 ✓


청라5단지 선식당은 퓨전요리식당이에요. 메뉴고르기 힘들 때 오면 딱이에요. 중식,양식 한식이 다 있어요.



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홍익돈까스 ✓

홍익돈까스는 한국 고유 정서인 홍익의 정신을 바탕으로 고객 만족을 최우선으로 생각하며 최고의

• 맛집정보

4:38

← 음식정보




명태어장 ✓

☎ 0325688665

상세설명

밀반찬도 잘나오고 콩나물은 그냥 먹어도 되고 명태조림에 넣어서 비벼먹으면 더 맛있고 구운김에 명태조림을 싸서 먹어요.

지도 인천광역시 서구 경서동 976-41 **위치보기**



4:38

← 음식정보

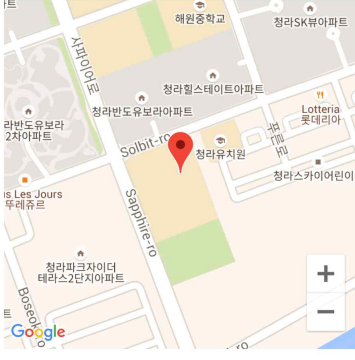
명태어장 ✓

☎ 0325688665

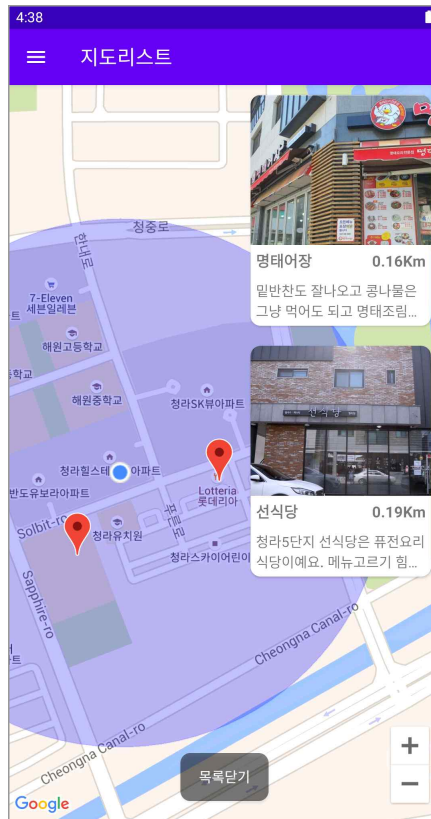
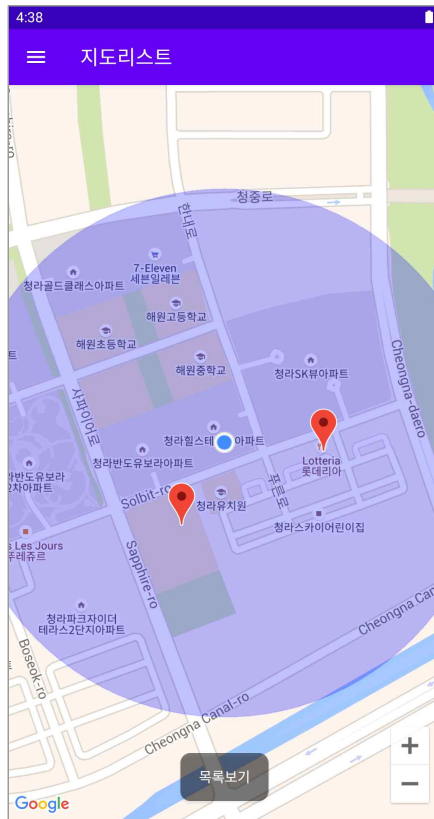
상세설명

밀반찬도 잘나오고 콩나물은 그냥 먹어도 되고 명태조림에 넣어서 비벼먹으면 더 맛있고 구운김에 명태조림을 싸서 먹어요.

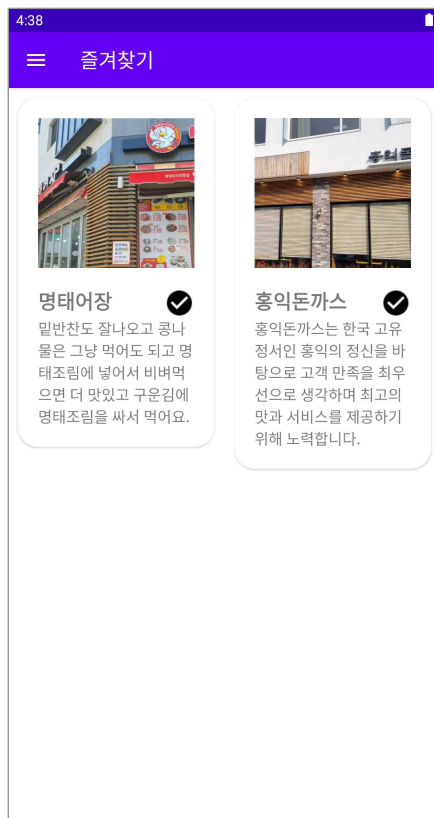
지도 인천광역시 서구 경서동 976-41 **위치보기**



• 지도리스트



• 즐겨찾기



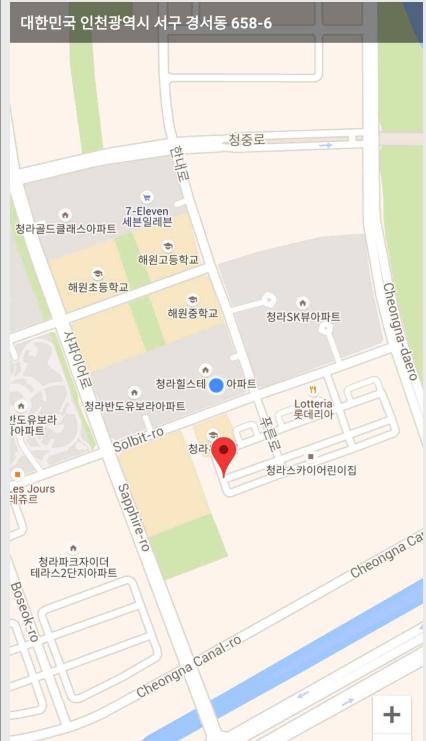
• 맛집 등록

←

맛집등록

닫기

대한민국 인천광역시 서구 경서동 658-6



다음

←

맛집등록

닫기

상호명

주소

전화번호

글자수: 4/500

맛집정보


이전

다음

←

맛집등록

닫기



메모

이전

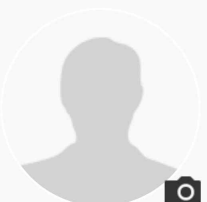
완료

• 프로필 설정

←

프로필 설정

확인



이름

성별


생일

전화

←

프로필 이미지변경

확인

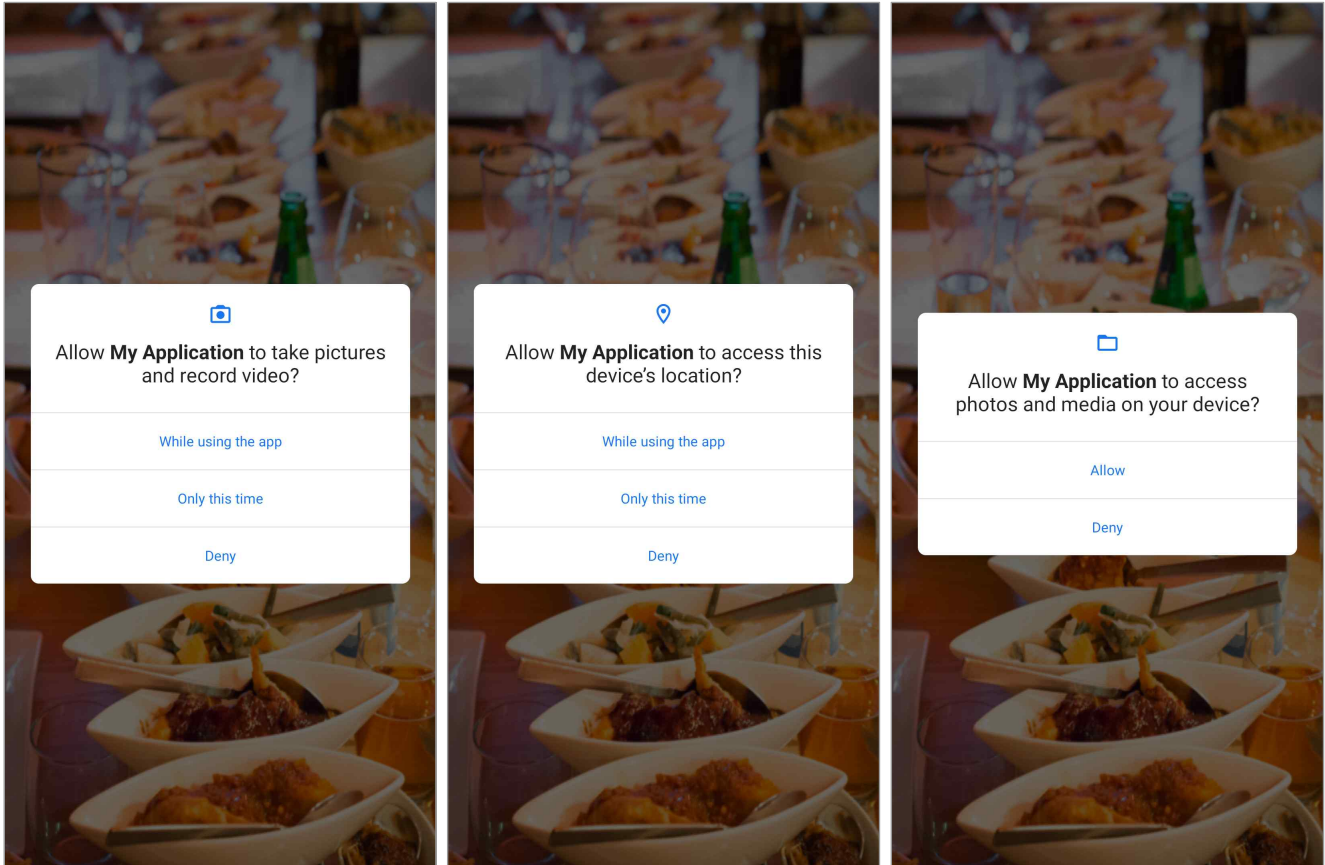


앨범

카메라

• 권한 화면 구성하기

안드로이드 6.0 이전에는 권한을 AndroidManifest.xml에 선언만 하면 되었지만 안드로이드 6.0부터는 앱을 실행해서 사용자로부터 권한을 승인 받아야 하는 방식으로 변경되었다. 이로 인해 변경해야 하는 코드가 매우 많아졌으며 처리 방식도 이전보다 많이 복잡해 졌다.



[AndroidManifest.xml]

```
<manifest xmlns:android="http://schemas.android.com/apk/res/android" package="com.example.myapplication">
    <uses-permission android:name="android.permission.ACCESS_FINE_LOCATION" />
    <uses-permission android:name="android.permission.CAMERA" />
    <uses-permission android:name="android.permission.READ_EXTERNAL_STORAGE" />
    <uses-permission android:name="android.permission.WRITE_EXTERNAL_STORAGE" />
    <application
        ...
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity" />
        <activity
            android:name=".PermissionActivity"
            android:theme="@style/Theme.AppCompat.NoActionBar">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```

[res]-[layout]-[activity_permission.xml]

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".PermissionActivity"
    android:background="@drawable/bg_index">
</RelativeLayout>
```

[java]-[com.example.food]-[PermissionActivity.java]

```
public class PermissionActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_permission);
        if(checkAndRequestPermission()){
            Intent intent = new Intent(this, IndexActivity.class);
            startActivity(intent);
            finish();
        }
    }

    //권한을 확인하고 권한이 부여되어 있지 않으면 권한을 요청한다.
    private boolean checkAndRequestPermission(){
        String[] permissions={Manifest.permission.CAMERA,
            Manifest.permission.READ_EXTERNAL_STORAGE,
            Manifest.permission.WRITE_EXTERNAL_STORAGE,
            Manifest.permission.ACCESS_FINE_LOCATION};
        ArrayList<String> permissionsNeeded =new ArrayList<>();
        for(String permission:permissions){
            if(ContextCompat.checkSelfPermission(this, permission) != PackageManager.PERMISSION_GRANTED){
                permissionsNeeded.add(permission);
            }
        }
        if(!permissionsNeeded.isEmpty()){
            ActivityCompat.requestPermissions(this, permissionsNeeded.toArray(new String[permissionsNeeded.size()]),100);
            return false;
        }
        return true;
    }

    //권한 요청 결과를 받은 메서드
    @Override
    public void onRequestPermissionsResult(int requestCode,@NonNull String[] permissions,@NonNull int[] grantResults) {
        super.onRequestPermissionsResult(requestCode, permissions, grantResults);
        boolean isAllGranted = true;
        for (int i=0; i<permissions.length; i++){
            if(grantResults[i] != PackageManager.PERMISSION_GRANTED){
                isAllGranted = false;
            }
        }
        if (isAllGranted){ //모든 권한이 부여된 경우 IndexActivity로 이동한다.
            Intent intent = new Intent(this, IndexActivity.class);
            startActivity(intent);
        }else{ //모든 권한이 부여되어 있지 않은 경우 권한 설정화면으로 이동할지를 선택한다.
            AlertDialog.Builder box=new AlertDialog.Builder(this);
            box.setTitle("질의");
            box.setMessage("권한 설정 화면으로 이동하실래요?");
            box.setPositiveButton("Yes", new DialogInterface.OnClickListener() {
                @Override
                public void onClick(DialogInterface dialog, int which) {
                    finish();
                    Intent intent = new Intent();
                    intent.setAction(Settings.ACTION_APPLICATION_DETAILS_SETTINGS);
                    Uri uri= Uri.fromParts("package", getPackageName(), null);
                    intent.setData(uri);
                    startActivity(intent);
                }
            });
            box.setNegativeButton("No", new DialogInterface.OnClickListener() {
                @Override
                public void onClick(DialogInterface dialog, int which) {
                    finish();
                }
            });
            box.show();
        }
    }
}
```


• 시작화면 구성하기

대부분의 앱은 시작 화면을 가지고 있으며 시작화면은 앱의 대표 화면으로서 앱을 사용하는데 필요한 데이터나 기타 여러 준비 작업을 하는 화면이다. 앱에 저장된 정보를 기반으로 서버에서 사용자에게 대한 정보를 가지고 오거나 각종 데이터를 가지고 오는 시간을 확보하는 용도이다.



[AndroidManifest.xml]

```
<application ...>
    <activity
        android:name=".IndexActivity"
        android:theme="@style/Theme.AppCompat.NoActionBar" />
    <activity android:name=".MainActivity" />
    ...
</application>
```

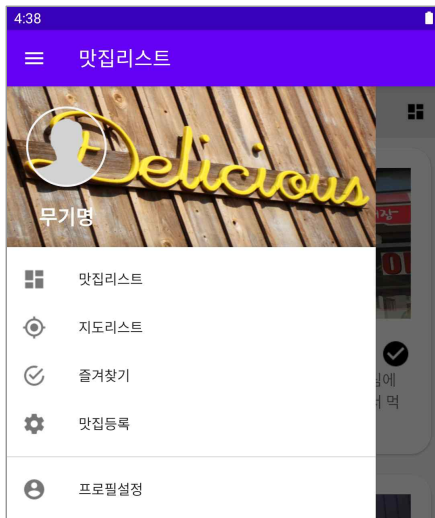
[res]-[layout]-[activity_index.xml]

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".IndexActivity"
    android:background="@drawable/bg_index">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="최고의 음식점\n모두모아\n베스트푸드"
        android:textColor="#FFFFFF"
        android:textStyle="bold"
        android:textSize="20sp"
        android:layout_marginRight="20sp"
        android:layout_marginTop="80sp"
        android:gravity="end"
        android:layout_alignParentRight="true"/>
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Delicious"
        android:textColor="#FFFFFF"
        android:textStyle="bold"
        android:textSize="20sp"
        android:layout_centerHorizontal="true"
        android:layout_alignParentBottom="true"
        android:layout_marginBottom="30sp"/>
</RelativeLayout>
```


[java]-[com.example.food]-[IndexActivity.java]

```
public class IndexActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_index);
    }
    @Override
    protected void onStart() {
        super.onStart();
        Handler mHandler = new Handler();
        mHandler.postDelayed(new Runnable() {
            @Override
            public void run() {
                Intent intent = new Intent(IndexActivity.this, MainActivity.class);
                startActivity(intent);
                finish();
            }
        }, 1200); //1.2초 이후에 MainActivity로 이동한다.
    }
}
```

• 메인 화면 구성하기



[Gradle Scripts]-[build.gradle] (Module: app)

```
dependencies {
    ...
    implementation 'com.android.support.design:30.0.0'
    implementation 'de.hdodenhof:circleimageview:3.1.0'
}
```

[res]-[layout]-[activity_main.xml]

```
<androidx.drawerlayout.widget.DrawerLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:id="@+id/drawerLayout">
    <RelativeLayout
        android:id="@+id/main_content"
        android:layout_width="match_parent"
        android:layout_height="match_parent">
        <include layout="@layout/main_drawer"/>
    </androidx.drawerlayout.widget.DrawerLayout>
```

[res]-[layout]-[main_drawer.xml]

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:id="@+id/main_drawer"
    android:layout_gravity="start">
    <RelativeLayout
        android:id="@+id/drawer_header"
        android:layout_width="918px"
        android:layout_height="400px"
        android:background="@drawable/bg_bestfood_drawer">
        <de.hdodenhof.circleimageview.CircleImageView
            xmlns:app="http://schemas.android.com/apk/res-auto"
            android:id="@+id/profile_icon"
            android:layout_width="80sp"
            android:layout_height="80sp"
            android:src="@drawable/ic_person"
            app:civ_border_width="2sp"
            app:civ_border_color="#EEEEEE"
            android:layout_marginTop="20sp"
            android:layout_marginLeft="20sp"/>
        <TextView
            android:id="@+id/profile_name"
            android:layout_width="80sp"
            android:layout_height="80sp"
            android:text="홍길동"
            android:textColor="#FFFFFF"
            android:textStyle="bold"
            android:textSize="20sp"
            android:layout_below="@id/profile_icon"
            android:gravity="center"
            android:layout_marginLeft="20sp"/>
        </RelativeLayout>
        <com.google.android.material.navigation.NavigationView
            android:id="@+id/drawer_menu"
            android:layout_width="918px"
            android:layout_height="match_parent"
            android:layout_below="@id/drawer_header"
            app:menu="@menu/menu_drawer"/>
    </RelativeLayout>
```

[res]-[menu]-[menu_drawer.xml]

```
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <group android:id="@+id/group1" android:checkableBehavior="all">
        <item android:id="@+id/nav_list"
            android:title="맛집리스트"
            android:icon="@drawable/ic_list"/>
        <item android:id="@+id/nav_map"
            android:title="지도리스트"
            android:icon="@drawable/ic_map"/>
        <item android:id="@+id/nav_keep"
            android:title="즐거찾기"
            android:icon="@drawable/ic_keep_off"/>
        <item android:id="@+id/nav_register"
            android:title="맛집등록"
            android:icon="@drawable/ic_register"/>
    </group>
    <group android:id="@+id/group2" android:checkableBehavior="all">
        <item android:id="@+id/nav_profile"
            android:title="프로필설정"
            android:icon="@drawable/ic_profile"/>
    </group>
</menu>
```

```
public class MainActivity extends AppCompatActivity {
    private final static int ACT_PROFILE=100;
    private final static int ACT_REGISTER=200;

    DrawerLayout drawerLayout;
    RelativeLayout mainDrawer;
    FragmentTransaction transaction;

    Fragment foodListFragment = new FoodListFragment();
    Fragment foodMapFragment = new FoodMapFragment();
    Fragment foodKeepFragment = new FoodKeepFragment();

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

        getSupportActionBar().setTitle("맛집리스트");
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);
        getSupportActionBar().setHomeAsUpIndicator(R.drawable.ic_menu);

        drawerLayout=findViewById(R.id.drawerLayout);
        mainDrawer=findViewById(R.id.main_drawer);

        transaction = getSupportFragmentManager().beginTransaction();
        transaction.replace(R.id.main_content, foodListFragment).commit();

        NavigationView navigation = findViewById(R.id.drawer_menu);
        navigation.setNavigationItemSelectedListener(new NavigationView.OnNavigationItemSelectedListener() {
            @Override
            public boolean onNavigationItemSelected(@NonNull MenuItem menuItem) {
                transaction = getSupportFragmentManager().beginTransaction();
                switch (menuItem.getItemId()) {
                    case R.id.nav_list:
                        transaction.replace(R.id.main_content, foodListFragment).commit();
                        getSupportActionBar().setTitle("맛집리스트");
                        break;
                    case R.id.nav_map:
                        transaction.replace(R.id.main_content, new FoodMapFragment()).commit();
                        getSupportActionBar().setTitle("지도리스트");
                        break;
                    case R.id.nav_keep:
                        transaction.replace(R.id.main_content, new FoodKeepFragment()).commit();
                        getSupportActionBar().setTitle("즐거찾기");
                        break;
                    case R.id.nav_profile:
                        Intent intent = new Intent(MainActivity.this, ProfileActivity.class);
                        startActivityForResult(intent, ACT_PROFILE);
                        break;
                    case R.id.nav_register:
                        intent = new Intent(MainActivity.this, RegisterActivity.class);
                        startActivityForResult(intent, ACT_REGISTER);
                        break;
                }
                drawerLayout.closeDrawer(mainDrawer);
                return true;
            }
        });
    }

    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        switch (item.getItemId()) {
            case android.R.id.home:
                if(drawerLayout.isDrawerOpen(mainDrawer)) {
                    drawerLayout.closeDrawer(mainDrawer);
                } else {
                    drawerLayout.openDrawer(mainDrawer);
                }
                break;
        }
        return super.onOptionsItemSelected(item);
    }
}
```

● 프로필 화면 구성하기

[src]-[layout]-[activity_profile.xml]

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".ProfileActivity"
    android:orientation="vertical"
    android:background="#F2F2F2">
    <RelativeLayout
        android:layout_width="200sp"
        android:layout_height="200sp"
        android:layout_gravity="center"
        android:layout_marginTop="50sp">
        <de.hdodenhof.circleimageview.CircleImageView
            android:id="@+id/ic_person"
            android:layout_width="200sp"
            android:layout_height="200sp"
            android:src="@drawable/ic_person"
            app:civ_border_color="#FFFFFF"
            app:civ_border_width="2sp"/>
        <ImageView
            android:id="@+id/profile_icon_change"
            android:layout_width="36sp"
            android:layout_height="36sp"
            android:src="@drawable/ic_camera"
            android:layout_alignParentBottom="true"
            android:layout_alignParentRight="true"/>
    </RelativeLayout>
    <GridLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:columnCount="2"
        android:padding="50sp"
        android:background="#FFFFFF"
        android:layout_marginTop="20sp">
        <TextView
            android:layout_width="50sp"
            android:layout_height="wrap_content"
            android:text="이름"
            android:textSize="20sp"/>
        <EditText
            android:id="@+id/profile_name"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"/>
        <TextView
            android:layout_width="50sp"
            android:layout_height="wrap_content"
            android:text="성별"
            android:textSize="20sp"/>
        <EditText
            android:id="@+id/profile_gender"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:focusable="false"/>
        <TextView
            android:layout_width="50sp"
            android:layout_height="wrap_content"
            android:text="생일"
            android:textSize="20sp"/>
        <EditText
            android:id="@+id/profile_birthday"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:focusable="false"/>
        <TextView
            android:layout_width="50sp"
            android:layout_height="wrap_content"
            android:text="전화"
            android:textSize="20sp"/>
        <EditText
            android:id="@+id/profile_phone"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"/>
    </GridLayout>
</LinearLayout>
```

[res]-[menu]-[menu_submit.xml]

```
<menu xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto">
    <item
        android:id="@+id/submit"
        android:title="확인"
        app:showAsAction="always"/>
</menu>
```

[com.example.food]-[ProfileActivity.java]

```
public class ProfileActivity extends AppCompatActivity {
    private static final int ACT_PROFILE_ICON = 100;
    SharedPreferences preferences;
    SharedPreferences.Editor editor;
    EditText name, gender, birthday, phone;
    CircleImageView image;

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

        getSupportActionBar().setTitle("프로필 설정");
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);

        name = findViewById(R.id.profile_name);
        gender = findViewById(R.id.profile_gender);
        phone = findViewById(R.id.profile_phone);
        birthday = findViewById(R.id.profile_birthday);
        image=findViewById(R.id.ic_person);

        //저장된 프로필 정보읽기
        preferences=getSharedPreferences("profile", AppCompatActivity.MODE_PRIVATE);
        editor = preferences.edit();
        name.setText(preferences.getString("name", "무기명"));
        gender.setText(preferences.getString("gender", null));
        phone.setText(preferences.getString("phone", null));
        birthday.setText(preferences.getString("birthday", null));
        String strImage = preferences.getString("image", null);
        if(strImage != null)
            image.setImageBitmap(BitmapFactory.decodeFile(strImage));

        //사진변경 버튼을 클릭한 경우
        ImageView imgProfileIconChange = findViewById(R.id.profile_icon_change);
        imgProfileIconChange.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent intent = new Intent(ProfileActivity.this, ProfileIconActivity.class);
                startActivityForResult(intent, ACT_PROFILE_ICON);
            }
        });

        //성별 입력상자를 클릭한 경우
        gender.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                final String[] genders = {"여자", "남자"};
                AlertDialog.Builder box=new AlertDialog.Builder(ProfileActivity.this);
                box.setItems(genders, new DialogInterface.OnClickListener() {
                    @Override
                    public void onClick(DialogInterface dialogInterface, int i) {
                        gender.setText(genders[i]);
                        dialogInterface.dismiss();
                    }
                });
                box.show();
            }
        });
    }
}
```

```

//생일 입력상자를 클릭한 경우
birthday.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        //현재날짜 지정
        GregorianCalendar calendar=new GregorianCalendar();
        int year = calendar.get(Calendar.YEAR);
        final int month = calendar.get(Calendar.MONTH);
        int day = calendar.get(Calendar.DAY_OF_MONTH);
        DatePickerDialog box=new DatePickerDialog(ProfileActivity.this, new DatePickerDialog.OnDateSetListener() {
            @Override
            public void onDateSet(DatePicker datePicker, int i, int i1, int i2) {
                String strBirthday=String.format("%4d-%02d-%02d", i, i1+1, i2);
                birthday.setText(strBirthday);
            }
        }, year, month, day);
        box.show();
    }
});
}

@Override
public boolean onOptionsItemSelected(@NonNull MenuItem item) {
    switch (item.getItemId()) {
        case android.R.id.home:
            setResult(RESULT_OK);
            finish();
            break;
        case R.id.submit:
            AlertDialog.Builder box=new AlertDialog.Builder(this);
            box.setTitle("질의");
            box.setMessage("프로필 정보를 입력하신텐요?");
            box.setPositiveButton("예", new DialogInterface.OnClickListener() {
                @Override
                public void onClick(DialogInterface dialogInterface, int i) {
                    editor.putString("name", name.getText().toString());
                    editor.putString("gender", gender.getText().toString());
                    editor.putString("birthday", birthday.getText().toString());
                    editor.putString("phone", phone.getText().toString());
                    editor.commit();
                    setResult(RESULT_OK);
                    finish();
                }
            });
            box.setNegativeButton("아니오", null);
            box.show();
            break;
    }
    return super.onOptionsItemSelected(item);
}

@Override
public boolean onCreateOptionsMenu(Menu menu) {
    getMenuInflater().inflate(R.menu.menu_submit, menu);
    return super.onCreateOptionsMenu(menu);
}

@Override
protected void onActivityResult(int requestCode, int resultCode, @Nullable Intent data) {
    super.onActivityResult(requestCode, resultCode, data);

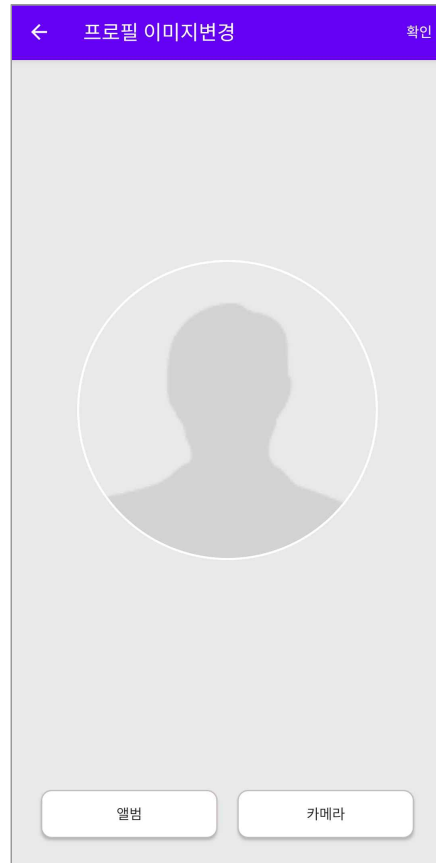
    if(resultCode != RESULT_OK) return;
    switch (requestCode) {
        //프로필 아이콘 설정 후
        case ACT_PROFILE_ICON:
            String strFile = preferences.getString("image", null);
            if(strFile != null) image.setImageBitmap(BitmapFactory.decodeFile(strFile));
    }
}
}

```

• 프로필 아이콘 이미지 등록 화면 구성하기

[res]-[layout]-[activity_profile_icon.xml]

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".ProfileIconActivity"
    android:background="#E2E2E2">
    <de.hdodenhof.circleimageview.CircleImageView
        android:id="@+id/profile_icon"
        android:layout_width="300sp"
        android:layout_height="300sp"
        android:src="@drawable/ic_person"
        app:civ_border_width="2sp"
        android:layout_marginTop="150sp"
        android:layout_centerHorizontal="true"
        app:civ_border_color="#FFFFFF"/>
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="50sp"
        android:padding="20sp"
        android:layout_alignParentBottom="true">
        <Button
            android:id="@+id/album"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:background="@drawable/ic_round"
            android:layout_margin="10sp"
            android:text="앨범"
            android:onClick="mClick"/>
        <Button
            android:id="@+id/camera"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:background="@drawable/ic_round"
            android:layout_margin="10sp"
            android:text="카메라"
            android:onClick="mClick"/>
    </LinearLayout>
</RelativeLayout>
```



[AndroidManifest.xml]

```
<application>
    ...
    <provider
        android:name="androidx.core.content.FileProvider"
        android:authorities="${applicationId}"
        android:exported="false"
        android:grantUriPermissions="true">
        <meta-data
            android:name="android.support.FILE_PROVIDER_PATHS"
            android:resource="@xml/file_paths"/>
    </provider>
</application>
```

[res]-[xml]-[file_paths.xml]

```
<paths xmlns:android="http://schemas.android.com/apk/res/android">
    <external-path name="pictures" path="."/>
</paths>
```



```

public class ProfileIconActivity extends AppCompatActivity {
    private static final int CALL_CAMERA=0;
    private static final int CALL_GALLERY=1;

    String strFile;
    CircleImageView profileIcon;
    SharedPreferences preferences;

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

        getSupportActionBar().setTitle("프로필 이미지 변경");
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);

        //프로필 이미지가 저장되어있는 경우 View에 출력
        preferences=getSharedPreferences("profile", Activity.MODE_PRIVATE);
        profileIcon=findViewById(R.id.profile_icon);
        strFile=preferences.getString("image", null);
        if(strFile != null) profileIcon.setImageBitmap(BitmapFactory.decodeFile(strFile));
    }

    public void mClick(View v) {
        switch(v.getId()) {
            case R.id.album:
                Intent intent=new Intent(Intent.ACTION_PICK, MediaStore.Images.Media.EXTERNAL_CONTENT_URI);
                startActivityForResult(intent, CALL_GALLERY);
                break;
            case R.id.camera:
                try {
                    intent = new Intent(MediaStore.ACTION_IMAGE_CAPTURE);
                    //카메라 파일명(/storage/emulated/0/Android/data/패키지명/files/Pictures/파일명)
                    File storageDir=getExternalFilesDir(Environment.DIRECTORY_PICTURES);
                    File file=File.createTempFile("img_", ".jpg", storageDir);
                    strFile = file.getAbsolutePath();
                    Uri uriFile = FileProvider.getUriForFile(this, getPackageName(), file);
                    intent.putExtra(MediaStore.EXTRA_OUTPUT, uriFile);
                    startActivityForResult(intent, CALL_CAMERA);
                } catch (Exception e) {
                    System.out.println("error.....:" + e.toString());
                }
                break;
        }
    }

    @Override
    protected void onActivityResult(int requestCode, int resultCode, @Nullable Intent data) {
        super.onActivityResult(requestCode, resultCode, data);
        if(resultCode != RESULT_OK) return;
        switch (requestCode) {
            case CALL_GALLERY:
                //앨범 파일명(/storage/emulated/0/DCIM/Camera/파일명)
                Cursor cursor = getContentResolver().query(data.getData(), null, null, null, null);
                cursor.moveToFirst();
                strFile = cursor.getString(cursor.getColumnIndex(MediaStore.Images.Media.DATA));
                cursor.close();
            case CALL_CAMERA:
                Bitmap bitmap= BitmapFactory.decodeFile(strFile);
                profileIcon.setImageBitmap(bitmap);
                break;
        }
    }
}

```

```

@Override
public boolean onOptionsItemSelected(@NonNull MenuItem item) {
    switch (item.getItemId()) {
        case android.R.id.home:
            finish();
            break;
        case R.id.submit:
            AlertDialog.Builder box=new AlertDialog.Builder(this);
            box.setTitle("질의");
            box.setMessage("프로필 사진을 변경하실래요?");
            box.setPositiveButton("예", new DialogInterface.OnClickListener() {
                @Override
                public void onClick(DialogInterface dialogInterface, int i) {
                    SharedPreferences.Editor editor=preferences.edit();
                    editor.putString("image", strFile);
                    editor.commit();
                    setResult(RESULT_OK);
                    finish();
                }
            });
            box.setNegativeButton("아니오", null);
            box.show();
            break;
    }
    return super.onOptionsItemSelected(item);
}

@Override
public boolean onCreateOptionsMenu(Menu menu) {
    getMenuInflater().inflate(R.menu.menu_submit, menu);
    return super.onCreateOptionsMenu(menu);
}
}

```

[com.example.food]-[MainActivity.java]

```

public class MainActivity extends AppCompatActivity {
    ...
    SharedPreferences preferences;
    CircleImageView profileIcon;
    TextView profileName;

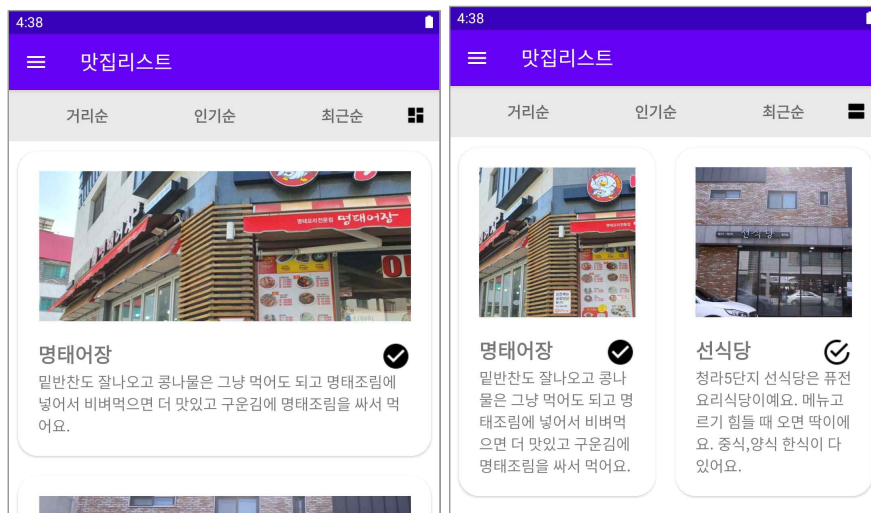
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        ...
        //저장된 프로필 정보읽기
        preferences=getSharedPreferences("profile", AppCompatActivity.MODE_PRIVATE);
        profileIcon = findViewById(R.id.profile_icon);
        profileName = findViewById(R.id.profile_name);
        profileName.setText(preferences.getString("name", "무기명"));
        String strImage = preferences.getString("image", null);
        if(strImage != null) profileIcon.setImageBitmap(BitmapFactory.decodeFile(strImage));
    }

    @Override
    protected void onActivityResult(int requestCode, int resultCode, @Nullable Intent data) {
        super.onActivityResult(requestCode, resultCode, data);
        if(resultCode != RESULT_OK) return;
        switch (requestCode) {
            case ACT_PROFILE:
                profileName.setText(preferences.getString("name", "무기명"));
                String strImage = preferences.getString("image", null);
                if(strImage != null) profileIcon.setImageBitmap(BitmapFactory.decodeFile(strImage));
                break;
            case ACT_REGISTER:
                break;
        }
    }
}

```

• 안드로이드 맛집리스트 화면 구성하기

맛집리스트 화면은 맛집리스트를 거리순, 인기순, 최근순으로 보여줄 수 있어야 하며, 오른쪽 끝의 사각형 버튼을 클릭하면 리스트 형태를 한 개씩 보여주는 리니어(linear) 방식과 두 개를 지그재그로 보여주는 스테거드(staggered) 방식으로 변경할 수 있어야 한다.



[src]-[layout]-[fragment_food_list.xml]

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:padding="15sp"
        android:background="#E2E2E2">
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:text="거리순"
            android:textStyle="bold"
            android:textSize="15sp"
            android:gravity="center"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:text="인기순"
            android:textStyle="bold"
            android:textSize="15sp"
            android:gravity="center"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:text="최근순"
            android:textStyle="bold"
            android:textSize="15sp"
            android:gravity="center"/>
        <ImageView
            android:id="@+id/list_type"
            android:layout_width="20sp"
            android:layout_height="20sp"
            android:src="@drawable/ic_list"/>
    </LinearLayout>
    <androidx.recyclerview.widget.RecyclerView
        android:id="@+id/list_food"
        android:layout_width="match_parent"
        android:layout_height="match_parent"/>
</LinearLayout>
```

[src]-[layout]-[item_food.xml]

```
<androidx.cardview.widget.CardView xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    xmlns:card_view="http://schemas.android.com/apk/res-auto"
    android:background="#E2E2E2"
    card_view:cardCornerRadius="20dp"
    android:layout_margin="10sp">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical"
        android:padding="20sp">
        <ImageView
            android:id="@+id/image"
            android:layout_width="match_parent"
            android:layout_height="150sp"
            android:scaleType="centerCrop"
            android:src="@drawable/image1"/>
        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:orientation="horizontal"
            android:layout_marginTop="20sp">
            <TextView
                android:id="@+id/name"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_weight="1"
                android:textSize="20sp"
                android:text="명태어장"
                android:textStyle="bold"/>
            <ImageView
                android:id="@+id/keep"
                android:layout_width="30sp"
                android:layout_height="30sp"
                android:src="@drawable/ic_keep_off"/>
        </LinearLayout>
        <TextView
            android:id="@+id/description"
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:textSize="15sp"
            android:text="꿀막걸리가 인기매뉴고 맛있는 음식을 저렴하게 즐길 수 있는 애우소입니다."/>
    </LinearLayout>
</androidx.cardview.widget.CardView>
```

[com.example.food]-[FoodVO.java]

```
public class FoodVO {
    private int id;
    private String name;
    private String tel;
    private String address;
    private double latitude;
    private double longitude;
    private String image;
    private int keep;
    private String description;
    //setter(), getter() 생략
}
```

[com.example.food]-[FoodDB.java]

```
public class FoodDB extends SQLiteOpenHelper {
    public FoodDB(@Nullable Context context) {
        super(context, "food.db", null, 1);
    }

    @Override
    public void onCreate(SQLiteDatabase db) {
        String sql="create table tbl_food(_id integer primary key autoincrement, name text, address text, ";
        sql += "tel text, latitude real, longitude real, image text, description text, keep integer)";
        db.execSQL(sql);

        sql += "insert into tbl_food(name,address,tel,latitude,longitude,keep,image,description) values(";
        sql += "'명태어장', '인천광역시 서구 경서동 976-41', '0325688665', 37.5242415, 126.6277588, 1, ";
        sql += "'/storage/emulated/0/Download/image1.jpg', ";
        sql += "'밑반찬도 잘나오고 콩나물은 그냥 먹어도 되고 명태조림에 넣어서 비벼먹으면 더 맛있고 구운김에 명태조림을 싸서 먹어요.)'";
        db.execSQL(sql);

        sql += "insert into tbl_food(name,address,tel,latitude,longitude,keep,image,description) values(";
        sql += "'선식당', '인천광역시 서구 경서동 보석로11번길 13', '0325635635', 37.5255, 126.6308, 0, ";
        sql += "'/storage/emulated/0/Download/image2.jpg', ";
        sql += "'청라5단지 선식당은 퓨전요리식당이예요. 메뉴고르기 힘들 때 오면 딱이예요. 중식,양식 한식이 다 있어요.)'";
        db.execSQL(sql);

        sql += "insert into tbl_food(name,address,tel,latitude,longitude,keep,image,description) values(";
        sql += "'홍익돈까스', '인천광역시 서구 청라동 132-2', '0325666344', 37.5389135, 126.6583786, 1, ";
        sql += "'/storage/emulated/0/Download/image3.jpg', ";
        sql += "'홍익 돈까스는 홍익의 정신을 바탕으로 고객 만족을 최우선으로 생각하며 최고의 맛과 서비스를 제공하기위해 노력합니다.)'";
        db.execSQL(sql);
    }
}
```

[com.example.food]-[FoodDAO.java]

```
public class FoodDAO {
    SQLiteDatabase db;

    //즐거찾기 등록 해지
    public void keepUpdate(FoodDB foodDB, int id, int keep) {
        SQLiteDatabase db=foodDB.getWritableDatabase();
        String sql ="update tbl_food set keep=" + keep + " where _id=" + id;
        db.execSQL(sql);
    }

    //Food All 목록 출력
    public List<FoodVO> foodList(FoodDB foodDB) {
        SQLiteDatabase db=foodDB.getReadableDatabase();
        List<FoodVO> array = new ArrayList<>();

        String sql="select _id,name,tel,address,image,latitude,longitude,keep,description from tbl_food";
        Cursor cursor=db.rawQuery(sql, null);

        while(cursor.moveToNext()){
            FoodVO vo=new FoodVO();
            vo.setId(cursor.getInt(0));
            vo.setName(cursor.getString(1));
            vo.setTel(cursor.getString(2));
            vo.setAddress(cursor.getString(3));
            vo.setImage(cursor.getString(4));
            vo.setLatitude(cursor.getDouble(5));
            vo.setLongitude(cursor.getDouble(6));
            vo.setKeep(cursor.getInt(7));
            vo.setDescription(cursor.getString(8));
            array.add(vo);
        }
        return array;
    }
}
```

```

public class FoodAdapter extends RecyclerView.Adapter<FoodAdapter.ViewHolder> {
    private final static int ACT_FOOD_INFO=300;
    Context context;
    List<FoodVO> array;
    FoodDAO dao=new FoodDAO();
    FoodDB foodDB;

    public FoodAdapter(Context context, List<FoodVO> array) {
        this.context = context;
        this.array = array;
        foodDB=new FoodDB(context);
    }

    @Override
    public FoodAdapter.ViewHolder onCreateViewHolder(@NonNull ViewGroup parent, int viewType) {
        View view = LayoutInflater.from(context).inflate(R.layout.item_food, parent, false);
        return new ViewHolder(view);
    }

    @Override
    public void onBindViewHolder(@NonNull final FoodAdapter.ViewHolder holder, int position) {
        final FoodVO vo=array.get(position);
        holder.image.setImageBitmap(BitmapFactory.decodeFile(vo.getImage()));
        holder.name.setText(vo.getName());
        holder.description.setText(vo.getDescription());

        if(vo.getKeep()==1) holder.keep.setImageResource(R.drawable.ic_keep_on);
        else holder.keep.setImageResource(R.drawable.ic_keep_off);
        holder.keep.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                AlertDialog.Builder box=new AlertDialog.Builder(context);
                box.setTitle("질의");
                if(vo.getKeep()==1) {
                    box.setMessage("즐거찾기를 취소하실래요?");
                    box.setPositiveButton("예", new DialogInterface.OnClickListener() {
                        @Override
                        public void onClick(DialogInterface dialogInterface, int i) {
                            holder.keep.setImageResource(R.drawable.ic_keep_off);
                            dao.keepUpdate(foodDB, vo.getId(), 0);
                            vo.setKeep(0);
                        }
                    });
                } else {
                    box.setMessage("즐거찾기에 등록하실래요?");
                    box.setPositiveButton("예", new DialogInterface.OnClickListener() {
                        @Override
                        public void onClick(DialogInterface dialogInterface, int i) {
                            holder.keep.setImageResource(R.drawable.ic_keep_on);
                            dao.keepUpdate(foodDB, vo.getId(), 1);
                            vo.setKeep(1);
                        }
                    });
                }
                box.setNegativeButton("아니오", null);
                box.show();
            }
        });

        holder.image.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent intent = new Intent(context, FoodInfoActivity.class);
                intent.putExtra("id", vo.getId());
                ((Activity)context).startActivityForResult(intent, ACT_FOOD_INFO);
            }
        });
    }
}

```

```

@Override
public int getItemCount() {
    return array.size();
}

public class ViewHolder extends RecyclerView.ViewHolder {
    ImageView image, keep;
    TextView name, description;

    public ViewHolder(@NonNull View itemView) {
        super(itemView);
        image=itemView.findViewById(R.id.image);
        name=itemView.findViewById(R.id.name);
        description=itemView.findViewById(R.id.description);
        keep=itemView.findViewById(R.id.keep);
    }
}
}

```

[com.example.food]-[FoodListFragment.java]

```

public class FoodListFragment extends Fragment {
    FoodDAO dao = new FoodDAO();
    int type=1;

    List<FoodVO> array = new ArrayList<>();
    FoodAdapter adapter;
    RecyclerView list;
    StaggeredGridLayoutManager manager;

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container, Bundle savedInstanceState) {
        View view=inflater.inflate(R.layout.fragment_food_list, container, false);

        FoodDB foodDB = new FoodDB(getContext());
        array=dao.foodList(foodDB);

        adapter=new FoodAdapter(getContext(), array);
        list = view.findViewById(R.id.list_food);
        list.setAdapter(adapter);
        manager=new StaggeredGridLayoutManager(type, StaggeredGridLayoutManager.VERTICAL);
        list.setLayoutManager(manager);

        //목록 타입 이미지 버튼을 클릭한 경우
        final ImageView imgType=view.findViewById(R.id.list_type);
        imgType.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                if(type == 1) {
                    imgType.setImageResource(R.drawable.ic_list2);
                    type=2;
                } else {
                    imgType.setImageResource(R.drawable.ic_list);
                    type=1;
                }
                manager=new StaggeredGridLayoutManager(type, StaggeredGridLayoutManager.VERTICAL);
                list.setLayoutManager(manager);
            }
        });
        return view;
    }
}

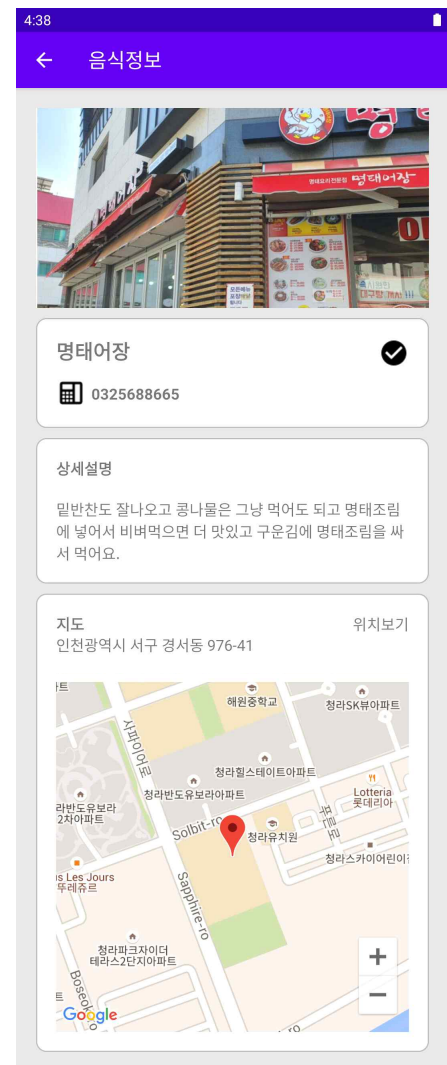
```

• 안드로이드 맛집 정보화면 구성하기

맛집 정보 화면은 맛집리스트 프래그먼트인 FoodListFragment에서 아이템을 클릭했을 때 실행되는 맛집 정보 상세 액티비티이다.

[src]-[layout]-[activity_food_info.xml]

```
<ScrollView xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".FoodInfoActivity"
    android:background="#E2E2E2"
    android:padding="20sp"
    android:scrollbars="none">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical">
        <ImageView
            android:id="@+id/image"
            android:layout_width="match_parent"
            android:layout_height="200sp"
            android:scaleType="centerCrop"
            android:background="@drawable/image1"/>
        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:orientation="vertical"
            android:background="@drawable/ic_round"
            android:layout_marginTop="10sp"
            android:padding="20sp">
            <LinearLayout
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:orientation="horizontal">
                <TextView
                    android:id="@+id/name"
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:text="삼교리동치미막국수"
                    android:layout_weight="1"
                    android:textStyle="bold"
                    android:textSize="20sp"/>
                <ImageView
                    android:id="@+id/keep"
                    android:layout_width="30sp"
                    android:layout_height="30sp"
                    android:src="@drawable/ic_keep_off"/>
            </LinearLayout>
            <LinearLayout
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:orientation="horizontal"
                android:layout_marginTop="10sp">
                <ImageView
                    android:layout_width="30sp"
                    android:layout_height="30sp"
                    android:src="@drawable/ic_tell"
                    android:layout_marginRight="5sp"/>
                <TextView
                    android:id="@+id/tel"
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:text="033-761-7300"
                    android:textSize="15sp"
                    android:textStyle="bold"
                    android:layout_marginTop="5sp"/>
            </LinearLayout>
        </LinearLayout>
    </LinearLayout>
```



```

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="vertical"
    android:background="@drawable/ic_round"
    android:layout_marginTop="10sp"
    android:padding="20sp">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="상세 설명"
        android:textStyle="bold"
        android:textSize="15sp"/>
    <TextView
        android:id="@+id/description"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="막국수를 비빔으로 먹을지 물로 먹을지 고객이 만들어 먹는 삼교리 등치미 막국수입니다."
        android:textSize="15sp"
        android:layout_marginTop="20sp"/>
</LinearLayout>
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:background="@drawable/ic_round"
    android:orientation="vertical"
    android:layout_marginTop="10sp"
    android:padding="20sp">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal">
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:text="지도"
            android:textSize="15sp"
            android:textStyle="bold"/>
        <TextView
            android:id="@+id/location"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="위치보기"
            android:textSize="15sp"/>
        </LinearLayout>
    <TextView
        android:id="@+id/address"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="강원도 원주시 무실동 942-2"
        android:textSize="15sp"/>
    <fragment
        android:id="@+id/map"
        android:name="com.google.android.gms.maps.SupportMapFragment"
        android:layout_width="match_parent"
        android:layout_height="350sp"
        android:layout_marginTop="20sp"
        android:background="#E2E2E2"/>
    </LinearLayout>
</LinearLayout>
</ScrollView>

```

[com.example.food]-[FoodDAO.java]

```
//Food 정보 읽기
public FoodVO foodRead(FoodDB foodDB, int id) {
    SQLiteDatabase db=foodDB.getReadableDatabase();
    FoodVO vo = new FoodVO();
    String sql="select _id,name,tel,address,image,latitude,longitude,keep,description from tbl_food where _id=" + id;
    Cursor cursor=db.rawQuery(sql, null);
    if(cursor.moveToNext()) {
        vo.setId(cursor.getInt(0));
        vo.setName(cursor.getString(1));
        vo.setTel(cursor.getString(2));
        vo.setAddress(cursor.getString(3));
        vo.setImage(cursor.getString(4));
        vo.setLatitude(cursor.getDouble(5));
        vo.setLongitude(cursor.getDouble(6));
        vo.setKeep(cursor.getInt(7));
        vo.setDescription(cursor.getString(8));
    }
    return vo;
}
```

[com.example.food]-[FoodInfoActivity.java]

```
public class FoodInfoActivity extends AppCompatActivity implements OnMapReadyCallback {
    FoodDB foodDB;
    FoodDAO dao= new FoodDAO();
    int id;
    FoodVO vo;
    private GoogleMap mMap;

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

        getSupportActionBar().setTitle("음식 정보");
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);

        Intent intent=getIntent();
        id = intent.getIntExtra("id", 0);
        foodDB = new FoodDB(this);
        vo = dao.foodRead(foodDB, id);

        ImageView image=findViewById(R.id.image);
        image.setImageBitmap(BitmapFactory.decodeFile(vo.getImage()));
        TextView name=findViewById(R.id.name);
        name.setText(vo.getName());
        TextView tel=findViewById(R.id.tel);
        tel.setText(vo.getTel());
        TextView address=findViewById(R.id.address);
        address.setText(vo.getAddress());
        TextView description=findViewById(R.id.description);
        description.setText(vo.getDescription());

        //음식점 위치로 이동
        SupportMapFragment mapFragment =
            (SupportMapFragment)getSupportFragmentManager().findFragmentById(R.id.map);
        mapFragment.getMapAsync(this);

        //위치보기 텍스트버튼을 클릭한 경우
        TextView location = findViewById(R.id.location);
        location.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                LatLng latLng=new LatLng(vo.getLatitude(), vo.getLongitude());
                mMap.addMarker(new MarkerOptions().position(latLng).title(vo.getName()));
                mMap.moveCamera(CameraUpdateFactory.newLatLngZoom(latLng, 16));
            }
        });
    }
}
```

```

final ImageView keep=findViewById(R.id.keep);
if(vo.getKeep()==1) keep.setImageResource(R.drawable.ic_keep_on);
else keep.setImageResource(R.drawable.ic_keep_off);

//즐거찾기 이미지 버튼을 클릭한 경우
keep.setOnClickListener(new View.OnClickListener() {
    public void onClick(View view) {
        AlertDialog.Builder box=new AlertDialog.Builder(FoodInfoActivity.this);
        box.setTitle("질의");
        if(vo.getKeep()==1) {
            box.setMessage("즐거찾기를 취소하실래요?");
            box.setPositiveButton("예", new DialogInterface.OnClickListener() {
                public void onClick(DialogInterface dialogInterface, int i) {
                    keep.setImageResource(R.drawable.ic_keep_off);
                    dao.keepUpdate(foodDB, id, 0);
                    vo.setKeep(0);
                    setResult(RESULT_OK);
                }
            });
        }else {
            box.setMessage("즐거찾기에 등록하실래요?");
            box.setPositiveButton("예", new DialogInterface.OnClickListener() {
                public void onClick(DialogInterface dialogInterface, int i) {
                    keep.setImageResource(R.drawable.ic_keep_on);
                    dao.keepUpdate(foodDB, id, 1);
                    vo.setKeep(1);
                    setResult(RESULT_OK);
                }
            });
        }
        box.setNegativeButton("아니오", null);
        box.show();
    }
});
}

@Override
public boolean onOptionsItemSelected(@NonNull MenuItem item) {
    switch (item.getItemId()) {
        case android.R.id.home:
            finish();
            break;
    }
    return super.onOptionsItemSelected(item);
}

@Override
public void onMapReady(GoogleMap googleMap) {
    mMap = googleMap;
    UiSettings settings = mMap.getUiSettings();
    settings.setZoomControlsEnabled(true);

    LatLng latLng = new LatLng(vo.getLatitude(), vo.getLongitude());
    mMap.addMarker(new MarkerOptions().position(latLng).title(vo.getName()));
    mMap.moveCamera(CameraUpdateFactory.newLatLngZoom(latLng, 16));
}
}

```

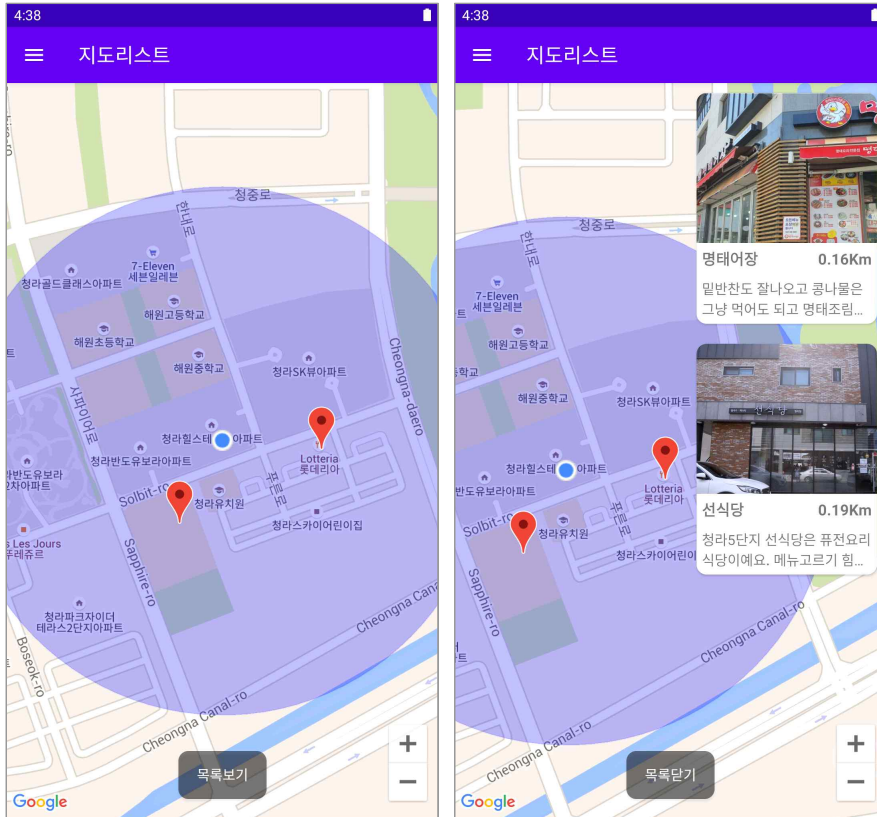
[com.example.food]-[MainActivity.java]

```

protected void onActivityResult(int requestCode, int resultCode, @Nullable Intent data) {
    super.onActivityResult(requestCode, resultCode, data);
    if(resultCode != RESULT_OK) return;
    switch (requestCode) {
        case ACT_FOOD_INFO:
            transaction = getSupportFragmentManager().beginTransaction();
            transaction.replace(R.id.main_content, new FoodListFragment()).commit();
            break;
        ...
    }
}

```

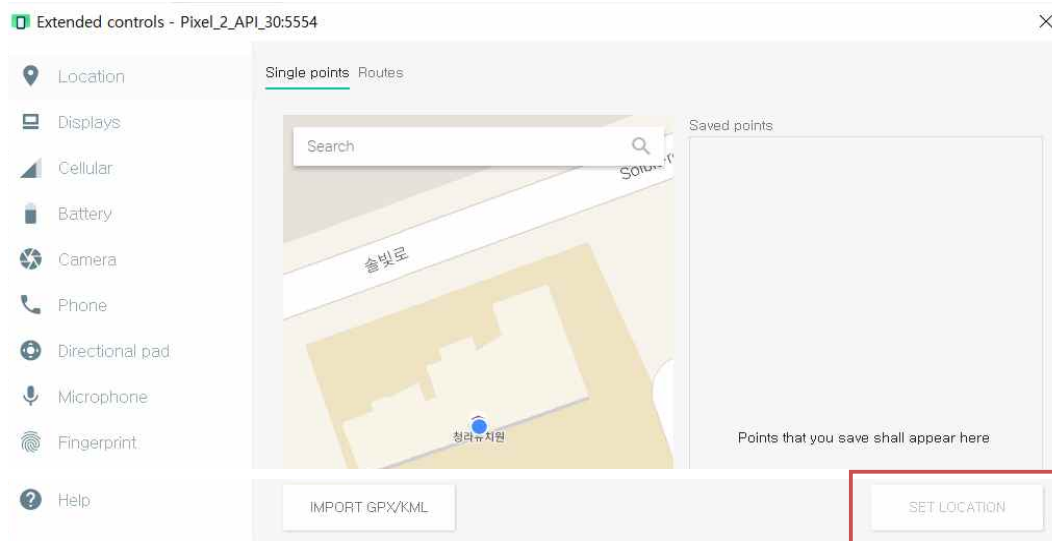
• 안드로이드 지도리스트 화면 구성하기



[src]-[layout]-[fragment_food_map.xml]

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".FoodMapFragment">
    <fragment
        android:id="@+id/map"
        android:name="com.google.android.gms.maps.SupportMapFragment"
        android:layout_width="match_parent"
        android:layout_height="match_parent" />
    <androidx.recyclerview.widget.RecyclerView
        android:id="@+id/list"
        android:layout_width="200sp"
        android:layout_height="match_parent"
        android:layout_alignParentRight="true"
        android:visibility="gone"/>
    <Button
        android:id="@+id/list_type"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="목록보기"
        android:layout_centerHorizontal="true"
        android:layout_alignParentBottom="true"
        android:layout_marginBottom="20sp"
        android:textColor="#FFFFFF"
        android:background="@drawable/ic_button"/>
    <ProgressBar
        android:id="@+id/progressBar"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_centerVertical="true"
        android:visibility="gone"/>
</RelativeLayout>
```

- 현재 Location위치 설정



[src]-[layout]-[item_map.xml]

```
<androidx.cardview.widget.CardView xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    app:cardCornerRadius="10sp"
    android:layout_margin="10sp">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical">
        <ImageView
            android:id="@+id/image"
            android:layout_width="match_parent"
            android:layout_height="150sp"
            android:scaleType="centerCrop"
            android:src="@drawable/image1"/>
        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:orientation="horizontal"
            android:padding="5sp">
            <TextView
                android:id="@+id/name"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_weight="1"
                android:text="명태어장"
                android:textSize="15sp"
                android:textStyle="bold"/>
            <TextView
                android:id="@+id/distance"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="1.1km"
                android:textSize="15sp"
                android:textStyle="bold"/>
        </LinearLayout>
        <TextView
            android:id="@+id/description"
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:text="청라 5단지 명태 코다리 맛집 명태어장은 밥집 소개해달라면 추천할만한 곳입니다."
            android:padding="5sp"
            android:maxLines="2"
            android:ellipsize="end"/>
    </LinearLayout>
</androidx.cardview.widget.CardView>
```

[java]-[com.example.food]-[MapAdapter.java]

```
public class MapAdapter extends RecyclerView.Adapter<MapAdapter.ViewHolder> {
    Context context;
    List<FoodVO> array = new ArrayList<>();
    List<Float> arrayDistance = new ArrayList<>();
    FoodDAO dao=new FoodDAO();
    FoodDB foodDB;

    public MapAdapter(Context context, List<FoodVO> array, List<Float> arrayDistance) {
        this.context = context;
        this.array = array;
        this.arrayDistance = arrayDistance;
        foodDB = new FoodDB(context);
    }

    @NonNull
    @Override
    public ViewHolder onCreateViewHolder(@NonNull ViewGroup parent, int viewType) {
        View view= LayoutInflater.from(context).inflate(R.layout.item_map, parent, false);
        return new ViewHolder(view);
    }

    @Override
    public void onBindViewHolder(@NonNull ViewHolder holder, int position) {
        final FoodVO vo=array.get(position);
        holder.image.setImageBitmap(BitmapFactory.decodeFile(vo.getImage()));
        holder.name.setText(vo.getName());
        holder.description.setText(vo.getDescription());
        holder.image.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent intent=new Intent(context, FoodInfoActivity.class);
                intent.putExtra("id", vo.getId());
                context.startActivity(intent);
            }
        });
        float distance=arrayDistance.get(position)/1000;
        DecimalFormat df=new DecimalFormat("#,##0.00Km");
        holder.distance.setText(df.format(distance));
    }

    @Override
    public int getItemCount() {
        return array.size();
    }
}

public class ViewHolder extends RecyclerView.ViewHolder {
    TextView name, description, distance;
    ImageView image;
    public ViewHolder(@NonNull View itemView) {
        super(itemView);
        name=itemView.findViewById(R.id.name);
        description=itemView.findViewById(R.id.description);
        image=itemView.findViewById(R.id.image);
        distance=itemView.findViewById(R.id.distance);
    }
}
```

[java]-[com.example.food]-[FoodMapFragment.java]

```
public class FoodMapFragment extends Fragment implements OnMapReadyCallback {
    GoogleMap mMap;
    ProgressBar progressBar;
    FoodDB foodDB;
    FoodDAO dao = new FoodDAO();
    List<FoodVO> array=new ArrayList<>();
    MapAdapter adapter;
    RecyclerView list;
```



```

public View onCreateView(LayoutInflater inflater, ViewGroup container, Bundle savedInstanceState) {
    View view=inflater.inflate(R.layout.fragment_food_map, container, false);
    progressBar = view.findViewById(R.id.progressBar);
    progressBar.setVisibility(View.VISIBLE);

    foodDB = new FoodDB(getContext());
    array=dao.foodList(foodDB);
    list = view.findViewById(R.id.list);
    list.setLayoutManager(new LinearLayoutManager(getContext()));

    final Button btnList=view.findViewById(R.id.list_type);
    btnList.setOnClickListener(new View.OnClickListener() {
        public void onClick(View view) {
            if(list.getVisibility()==View.VISIBLE) {
                list.setVisibility(View.GONE); btnList.setText("목록보기");
            }else {
                list.setVisibility(View.VISIBLE); btnList.setText("목록닫기");
            }
        }
    });
    SupportMapFragment mapFragment=(SupportMapFragment)getChildFragmentManager().findFragmentById(R.id.map);
    mapFragment.getMapAsync(this);
    return view;
}

public void onMapReady(GoogleMap googleMap) {
    mMap = googleMap;
    UiSettings settings = mMap.getUiSettings();
    settings.setZoomControlsEnabled(true);

    LocationManager locationManager=(LocationManager)getContext().getSystemService(Context.LOCATION_SERVICE);
    String permission = Manifest.permission.ACCESS_FINE_LOCATION;
    if(ActivityCompat.checkSelfPermission(getContext(), permission) != PackageManager.PERMISSION_GRANTED) return;
    locationManager.requestLocationUpdates(LocationManager.GPS_PROVIDER, 1000, 1, locationManager);
    locationManager.requestLocationUpdates(LocationManager.NETWORK_PROVIDER,1000,1,locationListener);
}

//GPS 현재 위치로 이동
LocationListener locationListener=new LocationListener() {
    public void onLocationChanged(@NonNull Location location) {
        double latitude = location.getLatitude();
        double longitude = location.getLongitude();
        LatLng latLng=new LatLng(latitude, longitude);
        mMap.moveCamera(CameraUpdateFactory.newLatLngZoom(latLng, 16));

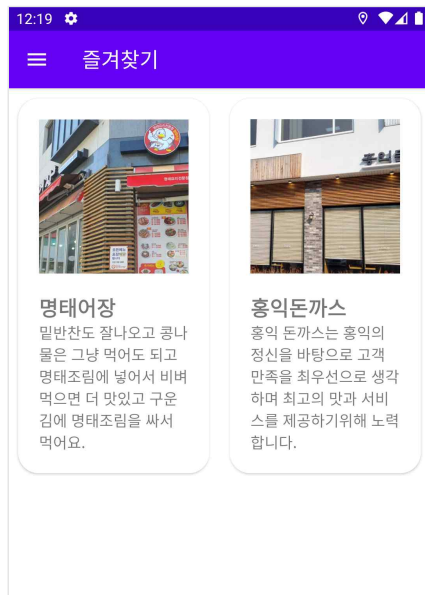
        //마커생성
        mMap.addMarker(new MarkerOptions()
            .position(latLng).title("현재위치").icon(BitmapDescriptorFactory.fromResource(R.drawable.current_marker)));
        //Circle생성
        CircleOptions circleOptions=new CircleOptions().center(latLng)
            .radius(500).fillColor(0x440000FF).strokeColor(0x110000FF).strokeWidth(4);
        mMap.addCircle(circleOptions);

        ArrayList<FoodVO> arrayMarker=new ArrayList<>();
        ArrayList<Float> arrayDistance=new ArrayList<>();
        for(FoodVO vo: array) {
            float[] result = new float[1];
            Location.distanceBetween(latitude, longitude, vo.getLatitude(), vo.getLongitude(), result);
            if (result[0] <= 500) {
                arrayMarker.add(vo);
                arrayDistance.add(result[0]);
                LatLng markerLocation = new LatLng(vo.getLatitude(), vo.getLongitude());
                mMap.addMarker(new MarkerOptions().position(markerLocation).title(vo.getName()));
            }
        }
        adapter=new MapAdapter(getContext(), arrayMarker, arrayDistance);
        list.setAdapter(adapter);
        progressBar.setVisibility(View.GONE);
    }
};
}

```

• 안드로이드 즐겨찾기 화면 구성하기

즐거찾기 화면은 사용자가 맛집리스트를 즐겨찾기에서 쉽고 빠르게 찾아가 수 있도록 하기 위해 구성한 화면이다.



[com.example.food]-[FoodDAO.java]

```
public class FoodDAO {
    //즐거찾기 목록 출력
    public List<FoodVO> keepList(FoodDB foodDB) {
        SQLiteDatabase db=foodDB.getWritableDatabase();
        List<FoodVO> array = new ArrayList<>();

        String sql="select _id,name,tel,address,image,latitude,longitude,keep,description ";
        sql += " from tbl_food where keep=1";

        Cursor cursor=db.rawQuery(sql, null);
        while(cursor.moveToNext()){
            FoodVO vo=new FoodVO();
            vo.setId(cursor.getInt(0));
            vo.setName(cursor.getString(1));
            vo.setTel(cursor.getString(2));
            vo.setAddress(cursor.getString(3));
            vo.setImage(cursor.getString(4));
            vo.setLatitude(cursor.getDouble(5));
            vo.setLongitude(cursor.getDouble(6));
            vo.setKeep(cursor.getInt(7));
            vo.setDescription(cursor.getString(8));
            array.add(vo);
        }
        return array;
    }
    ...
}
```

[src]-[layout]-[fragment_food_map.xml]

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".FoodKeepFragment">
    <androidx.recyclerview.widget.RecyclerView
        android:id="@+id/list_keep"
        android:layout_width="match_parent"
        android:layout_height="match_parent"/>
</RelativeLayout>
```

```
[java]-[com.example.food]-[KeepAdapter.java]
```

```
public class KeepAdapter extends RecyclerView.Adapter<KeepAdapter.ViewHolder> {
    private final static int ACT_FOOD_INFO=300;
    Context context;
    List<FoodVO> array;

    public KeepAdapter(Context context, List<FoodVO> array) {
        this.context = context;
        this.array = array;
    }

    @NonNull
    @Override
    public ViewHolder onCreateViewHolder(@NonNull ViewGroup parent, int viewType) {
        View view= LayoutInflater.from(context).inflate(R.layout.item_food, parent, false);
        return new ViewHolder(view);
    }

    @Override
    public void onBindViewHolder(@NonNull ViewHolder holder, int position) {
        final FoodVO vo=array.get(position);

        holder.name.setText(vo.getName());
        holder.description.setText(vo.getDescription());
        holder.keep.setVisibility(View.GONE);
        holder.image.setImageBitmap(BitmapFactory.decodeFile(vo.getImage()));
        holder.image.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent intent = new Intent(context, FoodInfoActivity.class);
                intent.putExtra("id", vo.getId());
                ((Activity)context).startActivityForResult(intent, ACT_FOOD_INFO);
            }
        });
    }

    @Override
    public int getItemCount() {
        return array.size();
    }

    public class ViewHolder extends RecyclerView.ViewHolder {
        ImageView image, keep;
        TextView name, description;
        public ViewHolder(@NonNull View itemView) {
            super(itemView);
            image=itemView.findViewById(R.id.image);
            keep=itemView.findViewById(R.id.keep);
            name=itemView.findViewById(R.id.name);
            description=itemView.findViewById(R.id.description);
        }
    }
}
```

```
[java]-[com.example.food]-[FoodKeepFragment.java]
```

```
public class FoodKeepFragment extends Fragment {
    FoodDAO dao = new FoodDAO();

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container, Bundle savedInstanceState) {
        View view=inflater.inflate(R.layout.fragment_food_keep, container, false);

        FoodDB foodDB = new FoodDB(getContext());
        List<FoodVO> array=dao.keepList(foodDB);
        KeepAdapter adapter=new KeepAdapter(getContext(), array);
        RecyclerView list = view.findViewById(R.id.list_keep);
        list.setAdapter(adapter);
        StaggeredGridLayoutManager manager=new StaggeredGridLayoutManager(2, StaggeredGridLayoutManager.VERTICAL);
        list.setLayoutManager(manager);

        return view;
    }
}
```

• 안드로이드 맛집 등록 화면 구성하기

<
맛집등록
닫기

대한민국 인천광역시 서구 경서동 658-6

다음

<
맛집등록
닫기

상호명

주소

전화번호

글자수: 4/500

맛집정보

이전

다음

<
맛집등록
닫기

메모

이전

완료

[com.example.food]-[FoodDAO.java]

```
public class FoodDAO {
    ...

    //음식점 등록
    public void foodInsert(FoodDB foodDB, FoodVO vo) {
        SQLiteDatabase db=foodDB.getWritableDatabase();

        String sql="insert into tbl_food(name,tel,address,image,latitude,longitude,keep,description) values(";
        sql += "'" + vo.getName() + "',";
        sql += "'" + vo.getTel() + "',";
        sql += "'" + vo.getAddress() + "',";
        sql += "'" + vo.getImage() + "',";
        sql += vo.getLatitude() + ",";
        sql += vo.getLongitude() + ",";
        sql += "0,";
        sql += "'" + vo.getDescription() + "'";
        db.execSQL(sql);
    }
    ...
}
```

[res]-[menu]-[menu_close.xml]

```
<menu xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto">
    <item
        android:id="@+id/close"
        android:title="닫기"
        app:showAsAction="always"/>
</menu>
```

[com.example.food]-[RegisterActivity.java]

```
public class RegisterActivity extends AppCompatActivity {
    ...
    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        getMenuInflater().inflate(R.menu.menu_close, menu);
        return super.onCreateOptionsMenu(menu);
    }
}
```

[src]-[layout]-[activity_register.xml]

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".RegisterActivity"
    android:orientation="vertical"
    android:background="#E2E2E2"
    android:padding="10sp">
    <FrameLayout
        android:id="@+id/fragment"
        android:layout_width="match_parent"
        android:layout_height="match_parent"/>
</RelativeLayout>
```

[src]-[layout]-[fragment_register_location.xml]

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".RegisterLocationFragment">
    <fragment
        android:id="@+id/map"
        android:name="com.google.android.gms.maps.SupportMapFragment"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_above="@id/next"/>
    <TextView
        android:id="@+id/address"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="address"
        android:textSize="15sp"
        android:textColor="#FFFFFF"
        android:background="#80000000"
        android:textStyle="bold"
        android:layout_alignParentTop="true"
        android:padding="10sp"/>
    <Button
        android:id="@+id/next"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:background="@drawable/ic_round"
        android:text="다음"
        android:layout_alignParentBottom="true"/>
    <ProgressBar
        android:id="@+id/progressBar"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerVertical="true"
        android:layout_centerHorizontal="true"/>
</RelativeLayout>
```

```

<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".RegisterImageFragment"
    android:background="#E2E2E2">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/info"
        android:orientation="vertical">
        <EditText
            android:id="@+id/name"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="상호명"
            android:background="@drawable/ic_round"
            android:padding="15sp"
            android:textSize="15sp"
            android:maxLines="1"
            android:layout_marginBottom="20sp"/>
        <EditText
            android:id="@+id/address"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="주소"
            android:background="@drawable/ic_round"
            android:padding="15sp"
            android:textSize="15sp"
            android:maxLines="1"
            android:layout_marginBottom="20sp"/>
        <EditText
            android:id="@+id/tel"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="전화번호"
            android:background="@drawable/ic_round"
            android:padding="15sp"
            android:textSize="15sp"
            android:maxLines="1"
            android:layout_marginBottom="20sp"/>
    </LinearLayout>
    <EditText
        android:id="@+id/description"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/info"
        android:lines="8"
        android:lineSpacingExtra="15sp"
        android:background="@drawable/ic_round"
        android:hint="맛집정보"
        android:gravity="start"
        android:padding="20sp"
        android:textSize="15sp"/>
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:layout_alignParentBottom="true">
        <Button
            android:id="@+id/prev"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"

```

```

        android:layout_weight="1"
        android:background="@drawable/ic_round"
        android:text="이전"
        android:layout_marginRight="10sp"/>
<Button
    android:id="@+id/next"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:background="@drawable/ic_round"
    android:text="다음" />
</LinearLayout>
</RelativeLayout>

```

[src]-[layout]-[fragment_register_image.xml]

```

<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".RegisterImageFragment"
    android:background="#E2E2E2">
    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="400sp"
        android:id="@+id/layout">
        <ImageView
            android:id="@+id/image"
            android:layout_width="match_parent"
            android:layout_height="400sp"
            android:background="@drawable/ic_round"
            android:scaleType="centerCrop"/>
        <ImageView
            android:id="@+id/camera"
            android:layout_width="50sp"
            android:layout_height="50sp"
            android:src="@drawable/ic_camera"
            android:layout_alignParentRight="true"
            android:layout_alignParentBottom="true"
            android:scaleType="fitCenter"
            android:padding="10sp"/>
    </RelativeLayout>
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:layout_alignParentBottom="true">
        <Button
            android:id="@+id/prev"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:background="@drawable/ic_round"
            android:text="이전"
            android:layout_marginRight="10sp"/>
        <Button
            android:id="@+id/complete"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:background="@drawable/ic_round"
            android:text="완료" />
    </LinearLayout>
</RelativeLayout>

```

[com.example.food]-[RegisterActivity.java]

```
public class RegisterActivity extends AppCompatActivity {
    FragmentTransaction transaction;
    Fragment fragmentImage = new RegisterImageFragment();
    Fragment fragmentLocation = new RegisterLocationFragment();
    Fragment fragmentInput = new RegisterInputFragment();

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

        getSupportActionBar().setTitle("맛집등록");
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);
        transaction=getSupportFragmentManager().beginTransaction();
        transaction.add(R.id.fragment, fragmentLocation).commit();
    }

    public void replaceFragment(String type, Bundle bundle) {
        transaction=getSupportFragmentManager().beginTransaction();
        switch (type) {
            case "location":
                transaction.replace(R.id.fragment, fragmentLocation).commit();
                break;
            case "input":
                fragmentInput.setArguments(bundle);
                transaction.replace(R.id.fragment, fragmentInput).commit();
                break;
            case "image":
                fragmentImage.setArguments(bundle);
                transaction.replace(R.id.fragment, fragmentImage).commit();
                break;
        }
    }

    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        switch (item.getItemId()) {
            case android.R.id.home:
            case R.id.close:
                finish();
                break;
        }
        return super.onOptionsItemSelected(item);
    }
}
```

[com.example.food]-[RegisterLocationFragment.java]

```
public class RegisterLocationFragment extends Fragment implements OnMapReadyCallback {
    GoogleMap mMap;
    ProgressBar progressBar;
    TextView txtAddress;
    Marker marker;
    FoodVO vo=new FoodVO();
    Context context;

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container, Bundle savedInstanceState) {
        View view=inflater.inflate(R.layout.fragment_register_location, container, false);
        context = getContext();

        txtAddress=view.findViewById(R.id.address);
        progressBar=view.findViewById(R.id.progressBar);
        progressBar.setVisibility(View.VISIBLE);

        SupportMapFragment mapFragment=(SupportMapFragment)getChildFragmentManager().findFragmentById(R.id.map);
        mapFragment.getMapAsync(this);
    }
}
```

```

//다음 버튼을 클릭한 경우
Button next = view.findViewById(R.id.next);
next.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        Bundle bundle=new Bundle();
        bundle.putSerializable("vo", vo);
        ((RegisterActivity)getActivity()).replaceFragment("input", bundle);
    }
});
return view;
}

@Override
public void onMapReady(GoogleMap googleMap) {
    mMap = googleMap;
    UiSettings settings = mMap.getUiSettings();
    settings.setZoomControlsEnabled(true);

    LocationManager locationManager=(LocationManager)getContext().getSystemService(Context.LOCATION_SERVICE);
    String permission = Manifest.permission.ACCESS_FINE_LOCATION;
    if(ActivityCompat.checkSelfPermission(getContext(), permission) != PackageManager.PERMISSION_GRANTED) return;
    locationManager.requestLocationUpdates(LocationManager.GPS_PROVIDER, 10000, 10.0f, locationListener);
    locationManager.requestLocationUpdates(LocationManager.NETWORK_PROVIDER,10000,10.0f,locationListener);

    //지도의 특정지역을 클릭한 경우
    mMap.setOnMapClickListener(new GoogleMap.OnMapClickListener() {
        @Override
        public void onMapClick(LatLng latLng) {
            double latitude=latLng.latitude;
            double longitude=latLng.longitude;
            MarkerOptions options=new MarkerOptions();
            options.position(latLng);
            options.draggable(true);
            options.icon(BitmapDescriptorFactory.defaultMarker(BitmapDescriptorFactory.HUE_RED));
            if(marker != null) marker.remove();
            marker = mMap.addMarker(options);
            txtAddress.setText(getAddress(getContext(), latitude, longitude));
            vo.setLongitude(longitude);
            vo.setLatitude(latitude);
            vo.setAddress(txtAddress.getText().toString());
        }
    });
}

//GPS 현재 위치로 이동
LocationListener locationListener=new LocationListener() {
    @Override
    public void onLocationChanged(@NonNull Location location) {
        double latitude = location.getLatitude();
        double longitude = location.getLongitude();
        LatLng latLng = new LatLng(latitude, longitude);

        mMap.moveCamera(CameraUpdateFactory.newLatLngZoom(latLng, 16));
        mMap.addMarker(new MarkerOptions()
            .position(latLng).title("현재위치").icon(BitmapDescriptorFactory.fromResource(R.drawable.current_marker)));

        txtAddress.setText(getAddress(context, latitude, longitude));
        vo.setLongitude(longitude);
        vo.setLatitude(latitude);
        vo.setAddress(txtAddress.getText().toString());
        progressBar.setVisibility(View.GONE);
    }
};

```

```
//위도, 경도 값으로 주소 가져오기
public static String getAddress(Context context, double latitude, double longitude) {
    String strAddress="현재 위치를 확인 할 수 없습니다.";
    Geocoder geocoder=new Geocoder(context, Locale.KOREA);
    List<Address> address;
    try {
        address = geocoder.getFromLocation(latitude, longitude, 1);
        strAddress = address.get(0).getAddressLine(0).toString();
    }catch (Exception e) {
        System.out.println("error.....:" + e.toString());
    }
    return strAddress;
}
}
```

[com.example.food]-[RegisterInputFragment.java]

```
public class RegisterInputFragment extends Fragment {
    FoodVO vo = new FoodVO();
    EditText name;
    EditText address;
    EditText tel;
    EditText description;

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container, Bundle savedInstanceState) {
        View view=inflater.inflate(R.layout.fragment_register_input, container, false);

        address=view.findViewById(R.id.address);
        tel = view.findViewById(R.id.tel);
        name = view.findViewById(R.id.name);
        description = view.findViewById(R.id.description);

        //Bundle에 vo값이 저장된 경우
        if(getArguments() != null) {
            vo=(FoodVO)getArguments().getSerializable("vo");
            address.setText(vo.getAddress());
        }

        //이전 버튼을 클릭한 경우
        Button next = view.findViewById(R.id.prev);
        next.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Bundle bundle=new Bundle();
                bundle.putSerializable("vo", vo);
                ((RegisterActivity)getActivity()).replaceFragment("location", bundle);
            }
        });

        //다음 버튼을 클릭한 경우
        Button prev = view.findViewById(R.id.next);
        prev.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                vo.setTel(tel.getText().toString());
                vo.setName(name.getText().toString());
                vo.setDescription(description.getText().toString());

                Bundle bundle=new Bundle();
                bundle.putSerializable("vo", vo);
                ((RegisterActivity)getActivity()).replaceFragment("image", bundle);
            }
        });
        return view;
    }
}
```

```

public class RegisterImageFragment extends Fragment {
    private static final int CALL_CAMERA=0;
    private static final int CALL_GALLERY=1;

    String strFile;
    FoodVO vo = new FoodVO();
    ImageView image;
    FoodDB foodDB;
    FoodDAO foodDAO = new FoodDAO();

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container, Bundle savedInstanceState) {
        View view=inflater.inflate(R.layout.fragment_register_image, container, false);

        foodDB = new FoodDB(getContext());
        image = view.findViewById(R.id.image);

        //Bundle에 값이 들어가 있는 경우
        if(getArguments() != null) {
            vo=(FoodVO)getArguments().getSerializable("vo");
            if(vo.getImage()!=null) image.setImageBitmap(BitmapFactory.decodeFile(vo.getImage()));
        }

        //이전 버튼을 클릭한 경우
        Button next = view.findViewById(R.id.prev);
        next.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Bundle bundle=new Bundle();
                bundle.putSerializable("vo", vo);
                ((RegisterActivity) getActivity()).replaceFragment("input", bundle);
            }
        });

        //확인 버튼을 클릭한 경우
        Button prev = view.findViewById(R.id.complete);
        prev.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                //vo의 값이 비어있는 경우
                if(vo.getName().equals("") || vo.getTel().equals("") || vo.getImage()==null){
                    Toast.makeText(getContext(), "입력할 내용을 채워주세요!", Toast.LENGTH_SHORT).show();
                    return;
                }

                AlertDialog.Builder box=new AlertDialog.Builder(getContext());
                box.setTitle("질의");
                box.setMessage("입력 내용을 저장하실래요?");
                box.setPositiveButton("예", new DialogInterface.OnClickListener() {
                    @Override
                    public void onClick(DialogInterface dialogInterface, int i) {
                        foodDAO.foodInsert(foodDB, vo);
                        (getActivity()).setResult(RESULT_OK);
                        (getActivity()).finish();
                    }
                });
                box.setNegativeButton("아니오", null);
                box.show();
            }
        });
        return view;
    }
}

```

//카메라 버튼을 클릭한 경우

```
ImageView camera = view.findViewById(R.id.camera);
camera.setOnClickListener(new View.OnClickListener() {
    String[] device = {"카메라", "앨범"};
    @Override
    public void onClick(View view) {
        AlertDialog.Builder box=new AlertDialog.Builder(getContext());
        box.setTitle("이미지 선택");
        box.setSingleChoiceItems(device, -1, new DialogInterface.OnClickListener() {
            @Override
            public void onClick(DialogInterface dialogInterface, int i) {
                switch (i) {
                    //앨범메뉴를 클릭한 경우
                    case CALL_GALLERY:
                        Intent intent=new Intent(Intent.ACTION_PICK, MediaStore.Images.Media.EXTERNAL_CONTENT_URI);
                        startActivityForResult(intent, CALL_GALLERY);
                        break;

                    //카메라메뉴를 클릭한 경우
                    case CALL_CAMERA:
                        try {
                            intent = new Intent(MediaStore.ACTION_IMAGE_CAPTURE);
                            File storageDir=getContext().getExternalFilesDir(Environment.DIRECTORY_PICTURES);
                            File file=File.createTempFile("img_", ".jpg", storageDir);
                            strFile = file.getAbsolutePath();

                            Uri uriFile = FileProvider.getUriForFile(getContext(), getContext().getPackageName(), file);
                            intent.putExtra(MediaStore.EXTRA_OUTPUT, uriFile);
                            startActivityForResult(intent, CALL_CAMERA);
                        }catch(Exception e) {
                            System.out.println("error.....:" + e.toString());
                        }
                        break;
                }
                dialogInterface.dismiss();
            }
        });
        box.show();
    }
});
```

//앨범에서 사진을 선택한 후 또는 카메라로 사진을 촬영한 후 발생

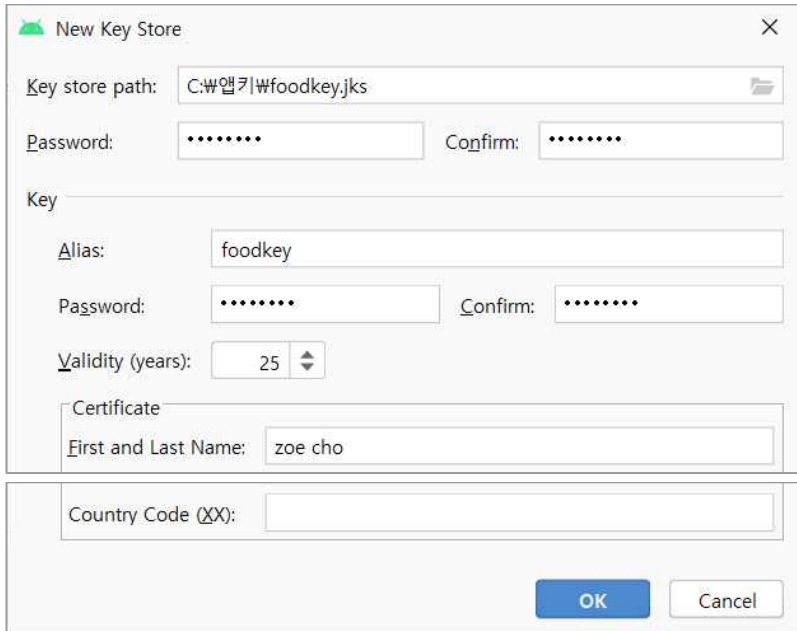
```
@Override
public void onActivityResult(int requestCode, int resultCode, @Nullable Intent data) {
    super.onActivityResult(requestCode, resultCode, data);
    if(resultCode != RESULT_OK) return;

    switch (requestCode) {
        //앨범에서 이미지를 선택한 후
        case CALL_GALLERY:
            Cursor cursor = getContext().getContentResolver().query(data.getData(), null, null, null, null);
            cursor.moveToFirst();
            strFile = cursor.getString(cursor.getColumnIndex(MediaStore.Images.Media.DATA));
            cursor.close();

            //카메라의 사진을 촬영한 후
            case CALL_CAMERA:
                Bitmap bitmap= BitmapFactory.decodeFile(strFile);
                image.setImageBitmap(bitmap);
                vo.setImage(strFile);
                break;
    }
}
```

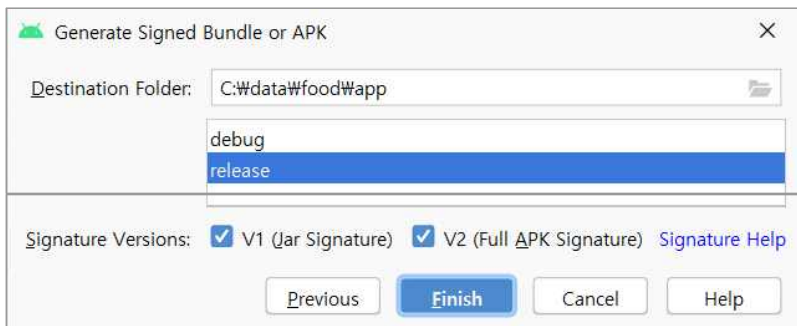
• 안드로이드 설치파일 apk 생성

- 1) [Build]-[Generate Signed Bundle/APK...] 메뉴를 선택한다.
- 2) Android App Bundle or APK 중 [APK] 옵션을 선택한다.
- 3) Create new... 버튼을 선택한다. 여기서 비밀번호와 키 저장경로, Alias, jks 파일도 잘 보관해주어야 업데이트를 할 수 있다.



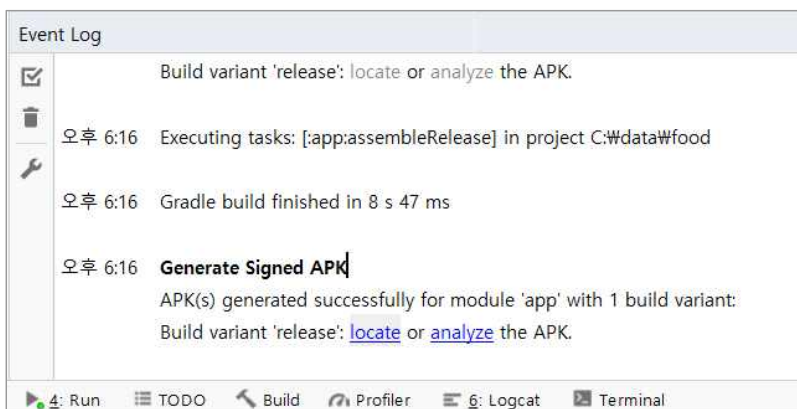
New Key Store dialog box showing fields for Key store path, Password, Confirm, Key Alias, Key Password, Key Confirm, Validity (years), Certificate First and Last Name, and Country Code (XX). Buttons for OK and Cancel are at the bottom.

- 4) 배포를 위한 release를 선택한다. 또한 버전을 선택해야하는데 V1, V2 모두 체크한다. V2만 체크하면 구형디바이스에서 정상적으로 설치되지 않을 수도 있다. 체크를 완료했다면 Finish를 누르고 1~2분 정도 기다려준다.



Generate Signed Bundle or APK dialog box showing Destination Folder, Build variant (debug/release), Signature Versions (V1, V2), and buttons for Previous, Finish, Cancel, and Help.

- 5) APK 파일 생성이 완료 되었다면 아래와 같이 우측 하단에 알림이 표시된다. locate 링크를 클릭하면 APK 파일이 저장된 폴더가 열린다.



Event Log window showing build progress and completion messages. The bottom bar includes Run, TODO, Build, Profiler, Logcat, and Terminal icons.

- 초기 생성 시 키 파일에 대한 백업이 가장 중요하므로 다시 한 번 주의하길 바란다.

이름	수정한 날짜	유형	크기
app-release.apk	2021-05-15 오후 6:16	ALZip APK File	3,748KB
output.json	2021-05-15 오후 6:16	JSON 파일	1KB