Appendix B

練習解答

Lesson 1　開始的第一步

省略

Lesson 2　Java與類別庫

省略

Lesson 3　Android的基本知識

1.

```
package ya.Sample;

import android.app.*;
import android.os.*;
import android.view.*;
import android.view.View.*;
import android.widget.*;

public class Rensyu1 extends Activity
{
    TextView tv;
    Button bt;

    public void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        LinearLayout ll = new LinearLayout(this);
        ll.setOrientation(LinearLayout.VERTICAL);
        setContentView(ll);

        tv = new TextView(this);
        tv.setText("歡迎光臨。");
        bt = new Button(this);
        bt.setText("購買");

        ll.addView(tv);
        ll.addView(bt);

        bt.setOnClickListener(new SampleClickListener());
    }
```

```
    class SampleClickListener implements OnClickListener
    {
        public void onClick(View v)
        {
            bt.setText("Thanks!");
        }
    }
}
```

2.

```
package ya.Sample;

import android.app.*;
import android.os.*;
import android.view.*;
import android.view.View.*;
import android.widget.*;

public class Rensyu2 extends Activity
{
    TextView tv;
    Button bt;

    public void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        LinearLayout ll = new LinearLayout(this);
        ll.setOrientation(LinearLayout.VERTICAL);
        setContentView(ll);

        tv = new TextView(this);
        tv.setText("歡迎光臨。");
        bt = new Button(this);
        bt.setText("購買");

        ll.addView(tv);
        ll.addView(bt);

        bt.setOnTouchListener(new SampleTouchListener());
    }
```

```
    class SampleTouchListener implements OnTouchListener
    {
       public boolean onTouch(View v, MotionEvent e)
       {
          if(e.getAction() == MotionEvent.ACTION_DOWN)
       {
             bt.setText("您好");
          }
          else if(e.getAction() == MotionEvent.ACTION_UP)
          {
             bt.setText("再見");
          }
          return true;
       }
    }
}
```

Lesson 4   各種視圖

1.

```
package ya.Sample;

import android.app.*;
import android.graphics.*;
import android.os.*;
import android.view.*;
import android.view.View.*;
import android.widget.*;

public class Rensyu1 extends Activity
{
   TextView tv;
   RadioButton rb1, rb2, rb3;
   RadioGroup rg;

   public void onCreate(Bundle savedInstanceState)
   {
      super.onCreate(savedInstanceState);
      LinearLayout ll = new LinearLayout(this);
      ll.setOrientation(LinearLayout.VERTICAL);
      setContentView(ll);
```

```
      tv = new TextView(this);
      tv.setText("歡迎光臨。");

      rb1 = new RadioButton(this);
      rb2 = new RadioButton(this);
      rb3 = new RadioButton(this);

      rb1.setText("黃");
      rb2.setText("紅");
      rb3.setText("藍");

      rg = new RadioGroup(this);

      rg.addView(rb1);
      rg.addView(rb2);
      rg.addView(rb3);

      rb1.setChecked(true);
      tv.setTextColor(Color.YELLOW);

      ll.addView(tv);
      ll.addView(rg);

      rb1.setOnClickListener(new SampleClickListener());
      rb2.setOnClickListener(new SampleClickListener());
      rb3.setOnClickListener(new SampleClickListener());
   }
   class SampleClickListener implements OnClickListener
   {
      public void onClick(View v)
      {
         int c = 0;
      if(v == rb1)
      {
         c = Color.YELLOW;
         }
         else if(v == rb2)
         {
            c = Color.RED;
         }
         else if(v == rb3)
         {
            c = Color.BLUE;
          }
```

```
            tv.setTextColor(c);
        }
    }
}
```

2.

```
package ya.Sample;

import android.app.*;
import android.graphics.*;
import android.os.*;
import android.view.*;
import android.view.View.*;
import android.widget.*;

public class Rensyu2 extends Activity
{
    TextView tv;
    RadioButton rb1, rb2, rb3;
    RadioGroup rg;

    public void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        LinearLayout ll = new LinearLayout(this);
        ll.setOrientation(LinearLayout.VERTICAL);
        setContentView(ll);

        tv = new TextView(this);
        tv.setText("Hello!");

        rb1 = new RadioButton(this);
        rb2 = new RadioButton(this);
        rb3 = new RadioButton(this);

        rb1.setText("標準");
        rb2.setText("粗體");
        rb3.setText("斜體");

        rg = new RadioGroup(this);

        rg.addView(rb1);
```

```
     rg.addView(rb2);
     rg.addView(rb3);

     rb1.setChecked(true);

     ll.addView(tv);
     ll.addView(rg);

     rb1.setOnClickListener(new SampleClickListener());
     rb2.setOnClickListener(new SampleClickListener());
     rb3.setOnClickListener(new SampleClickListener());
  }
  class SampleClickListener implements OnClickListener
  {
     public void onClick(View v)
     {
     if(v == rb1)
     {
        tv.setTypeface(Typeface.create(Typeface.DEFAULT,
                     Typeface.NORMAL));
        }
        else if(v == rb2)
        {
           tv.setTypeface(Typeface.create(Typeface.DEFAULT,
                        Typeface.BOLD));
        }
        else if(v == rb3)
        {
           tv.setTypeface(Typeface.create(Typeface.SERIF,
                        Typeface.ITALIC));
        }
     }
   }
}
```

Lesson 5   圖像

1.

```
package ya.Sample;

import android.app.*;
import android.graphics.*;
```

```
 import android.os.*;
import android.view.*;
import android.view.View.*;
import android.view.animation.*;
import android.widget.*;

public class Rensyu1 extends Activity
{
   ImageView iv;
   Bitmap bmp;

   public void onCreate(Bundle savedInstanceState)
   {
      super.onCreate(savedInstanceState);
      LinearLayout ll = new LinearLayout(this);
      ll.setOrientation(LinearLayout.HORIZONTAL);
      ll.setGravity(Gravity.CENTER);
      setContentView(ll);

      bmp = BitmapFactory.decodeResource(getResources(),
                                         R.drawable.car);

      iv = new ImageView(this);
      iv.setImageBitmap(bmp);

      ll.addView(iv);

      iv.setOnClickListener(new SampleClickListener());
   }
   class SampleClickListener implements OnClickListener
   {
      public void onClick(View v)
      {
         ImageView tmp = (ImageView) v;
         TranslateAnimation anim = new TranslateAnimation(400, 0, 0, 0);
         anim.setInterpolator(getBaseContext(),
             android.R.anim.accelerate_decelerate_interpolator);
         anim.setDuration(1000);
         tmp.startAnimation(anim);
      }
   }
}
```

2.

```
package ya.Sample;

import android.app.*;
import android.content.*;
import android.graphics.*;
import android.os.*;
import android.view.*;
import android.widget.*;

public class Rensyu2 extends Activity
{
   SampleView sv;
   Bitmap bmp;

   public void onCreate(Bundle savedInstanceState)
   {
      super.onCreate(savedInstanceState);
      LinearLayout ll = new LinearLayout(this);
      setContentView(ll);

      sv = new SampleView(this);

      bmp = BitmapFactory.decodeResource(getResources(),
                                         R.drawable.car);

      ll.addView(sv);
   }
   class SampleView extends View
   {
      float x, y;

      public SampleView(Context cn)
      {
         super(cn);
         x = -100; y = -100;
      }
      public boolean onTouchEvent(MotionEvent e)
      {
         x = e.getX();
         y = e.getY();

         this.invalidate();
```

```
        return true;
      }
      protected void onDraw(Canvas cs)
      {
        super.onDraw(cs);
       Paint p = new Paint();
        cs.drawBitmap(bmp, x, y, p);
      }
   }
}
```

3.

```
package ya.Sample;

import java.util.*;
import android.app.*;
import android.content.*;
import android.graphics.*;
import android.os.*;
import android.view.*;
import android.widget.*;

public class Rensyu3 extends Activity
{
    static final int num = 50;
    SampleView sv;
    Bitmap bmp;

   public void onCreate(Bundle savedInstanceState)
   {
      super.onCreate(savedInstanceState);
      LinearLayout ll = new LinearLayout(this);
      setContentView(ll);

      sv = new SampleView(this);

      bmp = BitmapFactory.decodeResource(getResources(),
                                     R.drawable.car);

      ll.addView(sv);
   }
```

```
   class SampleView extends View
   {
      ArrayList<Point> bl;

      public SampleView(Context cn)
      {
         super(cn);

         bl = new ArrayList<Point>();

      Random rn = new Random();

         for (int i=0; i<num; i++)
         {
             Point b = new Point();

            b.x = rn.nextInt(500);
             b.y = rn.nextInt(1000);
            bl.add(b);
         }
      }
      protected void onDraw(Canvas cs)
      {
          super.onDraw(cs);

        Paint p = new Paint();

         for(int i=0; i<num; i++)
         {
            Point b =   bl.get(i);

            cs.drawBitmap(bmp, b.x,b.y, p);
         }
      }
   }
}
```

Lesson 6　多媒體

1.

AndroidManifest.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
      package="ya.Sample"
      android:versionCode="1"
      android:versionName="1.0">
  <uses-sdk android:minSdkVersion="10" />


  <application android:icon=
        "@drawable/icon" android:label="@string/app_name">
    <activity android:name=".Rensyu1"
                    android:label="@string/app_name">
        <intent-filter>
          <action android:name="android.intent.action.MAIN" />
          <category android:name="android.intent.category.LAUNCHER" />
        </intent-filter>
      </activity>
    </application>
  <uses-permission android:name=
     "android.permission.CAMERA"></uses-permission>
  <uses-permission android:name=
     "android.permission.WRITE_EXTERNAL_STORAGE"></uses-permission>
</manifest>
```

Rensyu1.java

```java
package ya.Sample;

import java.io.*;
import java.util.*;
import android.app.*;
import android.os.*;
import android.view.*;
import android.view.View.*;
import android.widget.*;
import android.hardware.*;
import android.hardware.Camera.*;
```

```
public class Rensyu1 extends Activity
{
    Button bt;
    SurfaceView sv;
    SurfaceHolder sh;
    Camera cm;

    public void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        LinearLayout ll = new LinearLayout(this);
        ll.setOrientation(LinearLayout.VERTICAL);
        setContentView(ll);

        getWindow().addFlags(WindowManager.LayoutParams.
            FLAG_FULLSCREEN);

        bt = new Button(this);
        bt.setText("拍攝");

        sv = new SurfaceView(this);
        sh = sv.getHolder();

        sh.addCallback(new SampleSurfaceHolderCallback());
        sh.setType(SurfaceHolder.SURFACE_TYPE_PUSH_BUFFERS);

        ll.addView(bt);
        ll.addView(sv);

        bt.setOnClickListener(new SampleClickListener());
    }
    class SampleSurfaceHolderCallback
        implements SurfaceHolder.Callback
    {
        public void surfaceCreated(SurfaceHolder holder)
        {
            cm = Camera.open();
            Camera.Parameters pr = cm.getParameters();
            List<Size> ss = pr.getSupportedPictureSizes();
            Size s = ss.get(0);
            pr.setPictureSize(s.width, s.height);
            cm.setParameters(pr);
        }
```

```
    public void surfaceChanged(SurfaceHolder holder,
                             int format, int width,int height)
    {
        try
        {
            WindowManager wm =  (WindowManager)
                    getSystemService(WINDOW_SERVICE);
            Display dp = wm.getDefaultDisplay();
            int rt = dp.getRotation();
            int d = 0;
            switch (rt)
            {
                case Surface.ROTATION_0:
                    d = 90; break;
                case Surface.ROTATION_90:
                    d = 0; break;
                case Surface.ROTATION_180:
                    d = 270; break;
                case Surface.ROTATION_270:
                    d = 180; break;
            }

            cm.setDisplayOrientation(d);
            cm.setPreviewDisplay(sv.getHolder());

            Camera.Parameters pr = cm.getParameters();
            pr.setPreviewSize(width, height);
            cm.setParameters(pr);
            cm.startPreview();
            }
            catch(Exception e){}
    }
    public void surfaceDestroyed(SurfaceHolder holder)
    {
        cm.stopPreview();
        cm.release();
    }
}
class SampleClickListener implements OnClickListener
{
    public void onClick(View v)
    {
        cm.takePicture(null,null, new SamplePictureCallback());
    }
```

```
      class SamplePictureCallback implements PictureCallback
      {
          public void onPictureTaken(byte[] data, Camera c)
          {
              try
              {
                  File dir = new File(
                      Environment.getExternalStorageDirectory(),
                      "YASample");
                  if(dir.exists() == false)
                  {
                      dir.mkdir();
                  }

                  String name = System.currentTimeMillis() + ".jpeg";
                  File f = new File(dir, name);
                  FileOutputStream fos = new FileOutputStream(f);
                  fos.write(data);
                  Toast.makeText(getBaseContext(),
                      "將相片儲存為" + name + "了。",
                      Toast.LENGTH_LONG).show();
                  fos.close();
                  cm.startPreview();
              }
              catch(Exception e){}
          }
      }
}
```

2.

```
package ya.Sample;

import java.util.*;
import android.app.*;
import android.os.*;
import android.speech.tts.*;
import android.speech.tts.TextToSpeech.*;
import android.view.*;
import android.view.View.*;
import android.widget.*;

public class Rensyu2 extends Activity
```

```
{
   EditText et;
   ImageButton bt;
   TextToSpeech tts;

   public void onCreate(Bundle savedInstanceState)
   {
      super.onCreate(savedInstanceState);
      LinearLayout ll = new LinearLayout(this);
      ll.setOrientation(LinearLayout.VERTICAL);
      setContentView(ll);

      et = new EditText(this);

      bt = new ImageButton(this);
      bt.setImageResource(android.R.drawable.ic_media_play);

      ll.addView(et);
      ll.addView(bt);

      tts = new TextToSpeech(getApplicationContext(),
                             new SampleInitListener());
      tts.setLanguage(Locale.ENGLISH);

      bt.setOnClickListener(new SampleClickListener());
   }
   class SampleClickListener implements OnClickListener
   {
      public void onClick(View v)
      {
         String str  = et.getText().toString();
         if(str != null)
         {
            tts.speak(str, TextToSpeech.QUEUE_FLUSH, null);
         }
      }
   }
   class SampleInitListener implements OnInitListener
   {
      public void onInit(int status){}
   }
}
```

Lesson 7　感測器與地圖

1.

```
package ya.Sample;

import android.app.*;
import android.content.*;
import android.os.*;
import android.view.*;
import android.view.animation.*;
import android.widget.*;
import android.graphics.*;
import android.hardware.*;

public class Rensyu1 extends Activity
{
    ImageView iv;
    SensorManager sm;
    Sensor s;
    SampleSensorEventListener sse;
    float val;

    public void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        LinearLayout ll = new LinearLayout(this);
        ll.setOrientation(LinearLayout.VERTICAL);
        ll.setGravity(Gravity.CENTER);
        setContentView(ll);

        Bitmap bmp =
          BitmapFactory.decodeResource(getResources(),
                                      R.drawable.car);
        iv= new ImageView(this);
        iv.setImageBitmap(bmp);

        ll.addView(iv);

        sse = new SampleSensorEventListener();
    }
    protected void onResume()
    {
        super.onResume();
```

```
     sm = (SensorManager)getSystemService(Context.SENSOR_SERVICE);
      s = sm.getDefaultSensor(Sensor.TYPE_ACCELEROMETER);
     sm.registerListener(sse,s,SensorManager.SENSOR_DELAY_NORMAL);
  }
  protected void onPause()
  {
     super.onPause();
     sm.unregisterListener(sse);
  }
  class SampleSensorEventListener implements SensorEventListener
  {
     public void onSensorChanged(SensorEvent e)
     {
        if(e.sensor.getType() == Sensor.TYPE_ACCELEROMETER)
        {
           float tmp = e.values[0]+e.values[1]+e.values[2];

           if((tmp-val) > 5)
           {
              RotateAnimation anim =
                new RotateAnimation(0, 360, iv.getWidth()/2,
                                    iv.getHeight()/2);
              anim.setDuration(500);
              iv.startAnimation(anim);
           }
           val = tmp;
        }
     }
     public void onAccuracyChanged(Sensor s, int accuracy) {}
  }
}
```

2.

AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
     package="ya.Sample"
     android:versionCode="1"
     android:versionName="1.0">
  <uses-sdk android:minSdkVersion="10" />
```

```
    <application android:icon="@drawable/icon"
android:label="@string/app_name">
    <activity android:name=".Rensyu2"
                android:label="@string/app_name">
        <intent-filter>
            <action android:name="android.intent.action.MAIN" />
            <category android:name="android.intent.category.LAUNCHER"
            />
        </intent-filter>
    </activity>
    <uses-library android:name="com.google.android.maps" />
  </application>
  <uses-permission android:name="android.permission.INTERNET" />
  <uses-permission android:name="android.permission.ACCESS_FINE_
      LOCATION" />
</manifest>
```

Rensyu2.java

```java
package ya.Sample;

import com.google.android.maps.*;
import android.content.*;
import android.location.*;
import android.os.*;
import android.widget.*;

public class Rensyu2 extends MapActivity
{
    MapView mv;
    LocationManager lm;

    public void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        LinearLayout ll = new LinearLayout(this);
        ll.setOrientation(LinearLayout.VERTICAL);
        setContentView(ll);

        mv= new MapView(this, "XXXXXXXXXXXXXX");   //需要API key
        mv.setEnabled(true);
        mv.setClickable(true);
        mv.setBuiltInZoomControls(true);
```

```
     MapController mc = mv.getController();
     mc.setZoom(12);

    lm = (LocationManager)getSystemService(
            Context.LOCATION_SERVICE);

    ll.addView(mv);
 }
public void onResume()
{
    super.onResume();
    lm.requestLocationUpdates(LocationManager.GPS_PROVIDER, 0, 50,
        new SampleLocationListener());
}
protected boolean isRouteDisplayed()
{
    return false;
}
class SampleLocationListener implements LocationListener
{
    public void onLocationChanged(Location lc)
    {
        double dlt = lc.getLatitude();
        double dln = lc.getLongitude();
        int lt = (int) (dlt * 1E6);
        int ln = (int) (dln * 1E6);
        GeoPoint gp = new GeoPoint(lt, ln);
        mv.getController().animateTo(gp);
        Toast.makeText(getBaseContext(),
        "目前的所在地是\n緯度:" + dlt + "\n經度:" + dln + "。",
                Toast.LENGTH_LONG).show();
    }
    public void onProviderDisabled(String pv){}
    public void onProviderEnabled(String pv){}
    public void onStatusChanged(String pv, int staus, Bundle ex){}
 }
}
```

Lesson 8　應用程式的聯結

1.

```
package ya.Sample;

import android.app.*;
import android.content.*;
import android.media.*;
import android.net.*;
import android.os.*;
import android.provider.*;
import android.view.*;
import android.view.View.*;
import android.widget.*;

public class Rensyu1 extends Activity
{
    public static int SAMPLE_APP = 1;
    Button bt1, bt2;
    MediaPlayer mp;

    public void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        LinearLayout ll = new LinearLayout(this);
        ll.setOrientation(LinearLayout.VERTICAL);
        setContentView(ll);

        bt1 = new Button(this);
        bt2 = new Button(this);

        bt1.setText("錄音");
        bt2.setText("播放");

         mp = new MediaPlayer();

        ll.addView(bt1);
        ll.addView(bt2);

        bt1.setOnClickListener(new SampleClickListener());
        bt2.setOnClickListener(new SampleClickListener());
    }
     public void onActivityResult(int reqcode, int result, Intent it)
```

```
    {
      if(reqcode == SAMPLE_APP && result == RESULT_OK)
      {
      bt1.setEnabled(true);
      bt2.setEnabled(true);

      Uri uri = it.getData();
      try
         {
       mp.reset();
            mp.setDataSource(this, uri);
            mp.prepare();
         }
      catch(Exception e){}
      }
   }
   class SampleClickListener implements OnClickListener
   {
      public void onClick(View v)
      {
         if(v == bt1)
         {
            Intent it = new Intent();
            it.setAction(MediaStore.Audio.Media.RECORD_SOUND_
ACTION);

            startActivityForResult(it,SAMPLE_APP);
         }
         else if(v == bt2)
         {
            try
            {
                mp.start();
            }
            catch(Exception e){}
         }
      }
   }
}
```

2.

AndroidManifest.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
      package="ya.Sample"
      android:versionCode="1"
      android:versionName="1.0">
  <uses-sdk android:minSdkVersion="10" />

  <application android:icon=
    "@drawable/icon" android:label="@string/app_name">
    <activity android:name=".Rensyu2"
                  android:label="@string/app_name">
      <intent-filter>
        <action android:name="android.intent.action.MAIN" />
        <category android:name="android.intent.category.LAUNCHER" />
      </intent-filter>
    </activity>

  </application>
  <uses-permission android:name=
    "android.permission.READ_CONTACTS" />
</manifest>
```

Rensyu2.java

```java
package ya.Sample;

import android.app.*;
import android.database.*;
import android.os.*;
import android.provider.*;
import android.widget.*;

public class Rensyu2 extends Activity
{
   ListView lv;

   public void onCreate(Bundle savedInstanceState)
   {
      super.onCreate(savedInstanceState);
      LinearLayout ll = new LinearLayout(this);
```

```
        ll.setOrientation(LinearLayout.VERTICAL);
        setContentView(ll);

        lv = new ListView(this);

        Cursor cr = managedQuery
            (ContactsContract.CommonDataKinds.Email.CONTENT_URI, null,
             null, null, null);
        startManagingCursor(cr);



        ArrayAdapter<String> ad = new ArrayAdapter<String>
        (this, android.R.layout.simple_list_item_1);
        while(cr.moveToNext())
        {
            int in = cr.getColumnIndex("DISPLAY_NAME");
            int id = cr.getColumnIndex("DATA1");
            String str1 = cr.getString(in);
            String str2 = cr.getString(id);
            ad.add(str1 + "\n" +str2);
        }
        cr.close();
        lv.setAdapter(ad);

        ll.addView(lv);
    }
}
```

Lesson 9　Widget

1.

Rensyu1.java

```
package ya.Sample;

import java.util.*;
import android.app.*;
import android.appwidget.*;
import android.content.*;
import android.graphics.*;
import android.os.Bundle;
```

```
import android.widget.*;

public class Rensyu1 extends AppWidgetProvider
{
    String filter = "ya.Sample.09_Rensyu1.CLICK";

    public void onUpdate(Context cn, AppWidgetManager am, int[] ids)
    {
        RemoteViews rv = new RemoteViews(cn.getPackageName(),
                                        R.layout.widget);

        rv.setTextViewText(R.id.SampleTextView, "招呼");
        rv.setTextColor(R.id.SampleTextView, Color.BLACK);
        am.updateAppWidget(ids, rv);

        for(int i=0; i<ids.length; i++)
        {
            Intent it = new Intent(filter);
            it.putExtra(AppWidgetManager.EXTRA_APPWIDGET_ID, ids[i]);
            PendingIntent pi =
                PendingIntent.getBroadcast(cn, ids[i], it, 0);
            rv.setOnClickPendingIntent(R.id.SampleTextView, pi);
        }
        am.updateAppWidget(ids, rv);
    }
    public void onReceive(Context cn, Intent it)
    {
        super.onReceive(cn, it);
        String ac = it.getAction();
        if(ac.equals(filter))
        {
            Bundle ex = it.getExtras();
            int id = ex.getInt(AppWidgetManager.EXTRA_APPWIDGET_ID);

            RemoteViews rv =
                new RemoteViews(cn.getPackageName(),R.layout.widget);

            int f = 0;
            Random r = new Random();
            f = r.nextInt(4);
            String str = "招呼";
            int c = 0;
            switch(f)
            {
```

```
            case 0:
                str = "早安";
                c = Color.RED;
                break;
            case 1:
                str = "您好";
                c = Color.BLUE;
                break;
            case 2:
                str = "我很好";
                c = Color.GREEN;
                break;
            case 3:
                str = "不錯喔";
                c = Color.BLACK;
                break;
         }

        rv.setTextViewText(R.id.SampleTextView, str);
        rv.setTextColor(R.id.SampleTextView, c);
        AppWidgetManager am = AppWidgetManager.getInstance(cn);
        am.updateAppWidget(id, rv);
     }
   }
}
```

AndroidManifest.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
      package="ya.Sample"
      android:versionCode="1"
      android:versionName="1.0">
  <uses-sdk android:minSdkVersion="10" />

  <application android:icon=
       "@drawable/icon" android:label="@string/app_name">
    <receiver android:name=".Rensyu1"
              android:label="@string/app_name">
      <intent-filter>
        <action android:name=
            "android.appwidget.action.APPWIDGET_UPDATE" />
        <action android:name="ya.Sample.09_Rensyu1.CLICK" />
      </intent-filter>
```

```
      <meta-data android:name="android.appwidget.provider"
                 android:resource="@xml/appwidget" />
   </receiver>
  </application>
</manifest>
```

appwidget.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<appwidget-provider
  xmlns:android="http://schemas.android.com/apk/res/android"
   android:minWidth="72dp"
   android:minHeight="72dp"
   android:initialLayout = "@layout/widget"
   android:updatePeriodMillis = "0">
</appwidget-provider>
```

widget.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
  xmlns:android="http://schemas.android.com/apk/res/android"
  android:id="@+id/SampleLayout"
  android:orientation="vertical"
  android:layout_width="match_parent"
  android:layout_height="match_parent">
  <TextView
    android:id="@+id/SampleTextView"
    android:background="#FFFACD"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content" />
</LinearLayout>
```

2.

Rensyu2.java

```java
package ya.Sample;

import java.util.*;

import android.appwidget.*;
import android.content.*;
```

```java
import android.graphics.*;
import android.widget.*;

public class Rensyu2 extends AppWidgetProvider
{
    public void onUpdate(Context cn, AppWidgetManager am, int[] ids)
    {
        RemoteViews rv = new RemoteViews(cn.getPackageName(),
                                         R.layout.widget);

        Calendar cl = Calendar.getInstance();
        cl.setTime(new Date());
        int h = cl.get(Calendar.HOUR_OF_DAY);

        String str = "招呼";

        if(6 < h && h < 10)
        {
         str = "早安";
        }
        else if(11 < h && h < 15)
        {
         str = "您好";
        }
        else if(16 < h && h < 20)
        {
         str = "明天見";
        }
        else if(21 < h && h < 24)
        {
         str = "晚安";
        }
        else if(0 < h && h < 5)
        {
         str = "ZZZ...";
        }

        rv.setTextViewText(R.id.SampleTextView, str);
        rv.setTextColor(R.id.SampleTextView, Color.BLACK);
        am.updateAppWidget(ids, rv);

    }
}
```

appwidgit.xml

```
<?xml version="1.0" encoding="utf-8"?>
<appwidget-provider
  xmlns:android="http://schemas.android.com/apk/res/android"
    android:minWidth="72dp"
    android:minHeight="72dp"
    android:initialLayout = "@layout/widget"
    android:updatePeriodMillis = "7200000">
</appwidget-provider>
```

widget

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
  xmlns:android="http://schemas.android.com/apk/res/android"
  android:id="@+id/SampleLayout"
  android:orientation="vertical"
  android:layout_width="match_parent"
  android:layout_height="match_parent">
  <TextView
    android:id="@+id/SampleTextView"
    android:background="#FFFACD"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content" />
</LinearLayout>
```

Lesson 10 檔案與資料庫

1.

AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
      package="ya.Sample"
      android:versionCode="1"
      android:versionName="1.0">
  <uses-sdk android:minSdkVersion="10" />

  <application android:icon=
    "@drawable/icon" android:label="@string/app_name">
```

```
     <activity android:name=".Rensyu1"
               android:label="@string/app_name">
       <intent-filter>
         <action android:name="android.intent.action.MAIN" />
         <category android:name="android.intent.category.LAUNCHER" />
       </intent-filter>
     </activity>
   </application>
   <uses-permission android:name=
        "android.permission.WRITE_EXTERNAL_STORAGE" />
</manifest>
```

Rensyu1.java

```java
package ya.Sample;

import java.io.*;
import android.app.*;
import android.os.*;
import android.view.*;
import android.view.View.*;
import android.widget.*;

public class Rensyu1 extends Activity
{
   Button[] bt = new Button[2] ;
   EditText et;

   public void onCreate(Bundle savedInstanceState)
   {
      super.onCreate(savedInstanceState);
      LinearLayout ll = new LinearLayout(this);
      ll.setOrientation(LinearLayout.VERTICAL);
      setContentView(ll);

      for(int i=0; i<bt.length; i++)
      {
         bt[i] = new Button(this);
      }

      bt[0].setText("讀取");
      bt[1].setText("儲存");

      et = new EditText(this);
```

```
    et.setLines(3);

    ll.addView(et);

    for(int i=0; i<bt.length; i++)
    {
     ll.addView(bt[i]);
     bt[i].setOnClickListener(new SampleClickListener());
    }
}
class SampleClickListener implements OnClickListener
{
    public void onClick(View v)
    {
        if(v == bt[0])
        {
            try
            {
                File dir = new File(
                    Environment.getExternalStorageDirectory(),
                    "YASample");
                if(dir.exists() == false)
                {
                    dir.mkdir();
                }
                File f = new File(dir, "Sample.txt");
                FileInputStream fis = new FileInputStream(f);
                BufferedReader br = new  BufferedReader(
                    new InputStreamReader(fis));
                StringBuffer sb = new StringBuffer();
                String str;
                while((str = br.readLine())  != null)
                {
                    sb.append(str);
                    }
                et.setText(sb);
            }
            catch(Exception e){}
        }
        else if(v == bt[1])
        {
          try
           {
```

```
              File dir = new File(
                  Environment.getExternalStorageDirectory(),
                  "YASample");
              if(dir.exists() == false)
              {
                  dir.mkdir();
               }
              File f = new File(dir, "Sample.txt");
              FileOutputStream fos = new FileOutputStream(f);
              BufferedWriter bw =
                  new  BufferedWriter(new OutputStreamWriter(fos));
              bw.write(et.getText().toString());
              bw.flush();
              fos.close();
          }
           catch(Exception e){}
         }
       }
    }
}
```

2.

```
package ya.Sample;

import java.io.*;
import java.util.*;
import android.app.*;
import android.os.*;
import android.widget.*;

public class Rensyu2 extends Activity
{
    ListView lv;
    ArrayList<HashMap<String, String>> data;

  public void onCreate(Bundle savedInstanceState)
  {
     super.onCreate(savedInstanceState);
     LinearLayout ll = new LinearLayout(this);
     ll.setOrientation(LinearLayout.HORIZONTAL);
     setContentView(ll);

     ListView lv = new ListView(this);
```

```
    File fl = new File("data/data/" + getPackageName());
    data = new ArrayList<HashMap<String, String>>();

    File[] list = fl.listFiles();

    for(int i=0; i<list.length; i++)
    {
     HashMap<String, String> hm = new HashMap<String, String>();

     hm.put("name", list[i].getName());
     hm.put("info", list[i].length() + "bytes");
     data.add(hm);
    }

    String[] str = {"name", "info"};
    int[] ids = {android.R.id.text1, android.R.id.text2};

    SimpleAdapter ad = new SimpleAdapter(this, data,
       android.R.layout.simple_list_item_2, str, ids);
    lv.setAdapter(ad);
    ll.addView(lv);

  }
}
```

Lesson 11 網路

1.

AndroidManifest.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
     package="ya.Sample"
     android:versionCode="1"
     android:versionName="1.0">
  <uses-sdk android:minSdkVersion="10" />

  <application android:icon=
       "@drawable/icon" android:label="@string/app_name">
    <activity android:name=".Rensyu1"
                  android:label="@string/app_name">
```

```
        <intent-filter>
          <action android:name="android.intent.action.MAIN" />
          <category android:name="android.intent.category.LAUNCHER" />
        </intent-filter>
     </activity>

  </application>
  <uses-permission android:name="android.permission.INTERNET" />
</manifest>
```

Rensyu1.java

```java
package ya.Sample;

import android.app.*;
import android.os.*;
import android.view.*;
import android.view.View.*;
import android.webkit.*;
import android.widget.*;

public class Rensyu1 extends Activity
{
   Button[] bt = new Button[4];
   WebView wv;

   public void onCreate(Bundle savedInstanceState)
   {
      super.onCreate(savedInstanceState);
      TableLayout tl = new TableLayout(this);
      setContentView(tl);

      wv = new WebView(this);
      wv.setWebViewClient(new WebViewClient());
      wv.loadUrl("http://www.google.com");

      TableRow tr = new TableRow(this);

      for(int i=0; i<bt.length; i++)
      {
         bt[i] = new Button(this);
         tr.addView(bt[i]);
      }
```

```
    bt[0].setText("←");
    bt[1].setText("→");
    bt[2].setText("+");
    bt[3].setText("-");

    for(int i=0; i<bt.length; i++)
    {
        bt[i].setOnClickListener(new SampleClickListener());
    }

    tl.addView(tr);
    tl.addView(wv);

}
public boolean onCreateOptionsMenu(Menu menu)
{
    menu.add(Menu.NONE, 0, 0, "Back").
        setIcon(android.R.drawable.ic_media_next);
    menu.add(Menu.NONE, 1, 1, "Forward").
        setIcon(android.R.drawable.ic_media_previous);
    menu.add(Menu.NONE, 2, 2, "Zoom In").
        setIcon(android.R.drawable.ic_menu_zoom);
    menu.add(Menu.NONE, 3, 3, "Zoom Out").
        setIcon(android.R.drawable.ic_menu_search);
    return super.onCreateOptionsMenu(menu);
}
public boolean onOptionsItemSelected(MenuItem mi)
{
    switch(mi.getItemId())
    {
        case 0:
            if(wv.canGoBack())
            {
                wv.goBack();
            }
            break;
        case 1:
            if(wv.canGoForward())
            {
                wv.goForward();
            }
            break;
```

```
        case 2:
            wv.zoomIn();
            break;
        case 3:
            wv.zoomOut();
            break;
    }
    return true;
}
class SampleClickListener implements OnClickListener
 {
    public void onClick(View v)
    {
        if(v == bt[0])
        {
            if(wv.canGoBack())
            {
                wv.goBack();
            }
        }
        else if(v == bt[1])
        {
            if(wv.canGoForward())
            {
                wv. goForward();
            }
        }
        else if(v == bt[2])
        {
            wv.zoomIn();
        }
        else if(v == bt[3])
        {
            wv.zoomOut();
        }
    }
  }
}
```

Lesson 12　發佈應用程式

1.

main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/
android"
    android:orientation="vertical"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    >
<TextView
    android:id = "@+id/SampleTextView"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:text="歡迎光臨。"
    />
<Button
    android:id = "@+id/SampleButton"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:text="購買"
    />
</LinearLayout>
```

Rensyu1.java

```java
package ya.Sample;

import android.app.*;
import android.os.*;
import android.view.*;
import android.view.View.*;
import android.widget.*;

public class Rensyu1 extends Activity
{

    public void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
```

App
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```
    setContentView(R.layout.main);

    Button bt = (Button) findViewById(R.id.SampleButton);

    bt.setOnClickListener(new SampleClickListener());
}

class SampleClickListener implements OnClickListener
{
    public void onClick(View v)
    {
    TextView tv = (TextView) findViewById(R.id.SampleTextView);
        tv.setText("謝謝惠顧。");
    }
}
}
```