Application Development

Dept. of Computer Science and Engineering

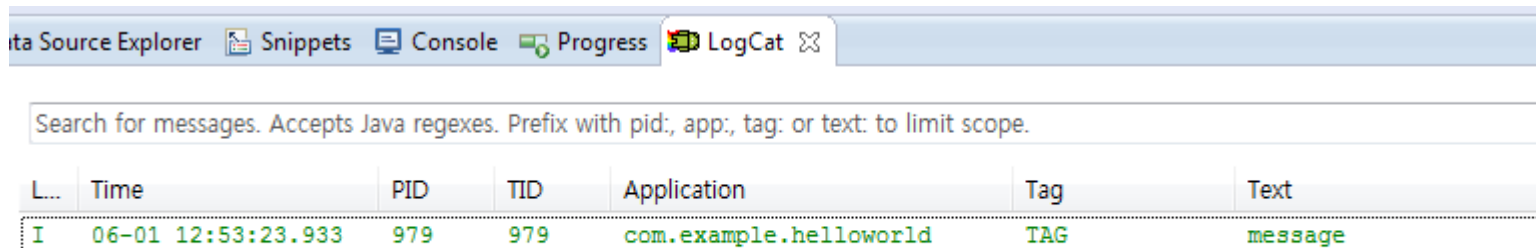Sogang University, Seoul, KOREA
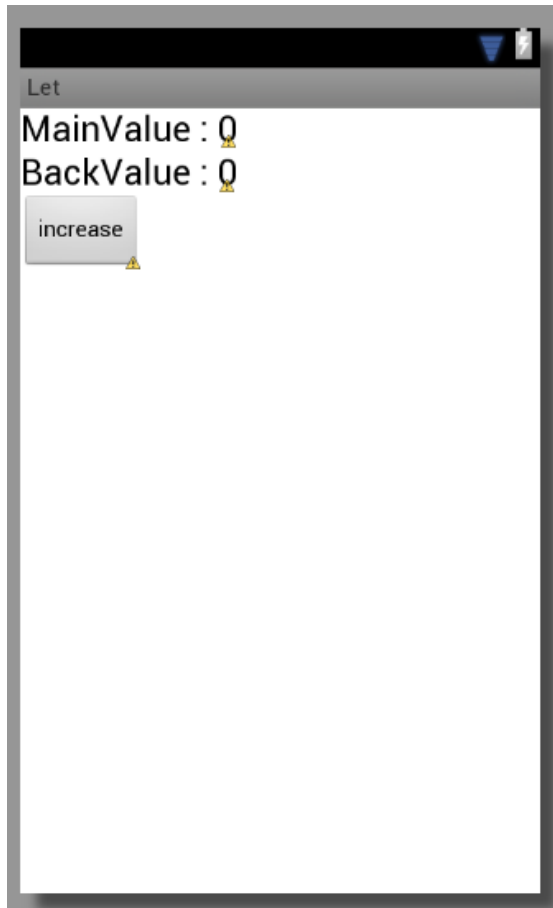
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Log

→ API for sending log output

→ Generally, use the Log.v() Log.d() Log.i() Log.w() and Log.e() methods.

```
private static final String TAG = "TAG";
Log.v(TAG, ""message");
```

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activity_main.xml

```xml
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/container"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical" >

    <TextView
        android:id="@+id/mainvalue"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="MainValue : 0"
        android:textAppearance="?android:attr/textAppearanceLarge" />

    <TextView
        android:id="@+id/backvalue"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="BackValue : 0"
        android:textAppearance="?android:attr/textAppearanceLarge" />

    <Button
        android:id="@+id/increase"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="increase" />

</LinearLayout>
```

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Thread(1)

```java
public class MainActivity extends Activity{

    int mMainValue = 0;
    int mBackValue = 0;
    TextView mMainText;
    TextView mBackText;


    LinearLayout linear;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        // TODO Auto-generated method stub
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        linear = (LinearLayout)findViewById(R.id.container);

        mMainText = (TextView)findViewById(R.id.mainvalue);
        mBackText = (TextView)findViewById(R.id.backvalue);
    }
```

Thread(3)

Thread(2)

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Thread(2)

➜ **Thread class 선언**

```java
class BackThread extends Thread{
    public void run(){
        while(true){
            mBackValue++;
            try{Thread.sleep(1000);}catch(InterruptedException e){;}


        }
    }
}
```

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Thread(3)

➜ Button & Thread

```
Button btn = (Button)findViewById(R.id.increase);
btn.setOnClickListener(new Button.OnClickListener(){
    public void onClick(View v){
        mMainValue++;
        mMainText.setText("MainValue : "+mMainValue);
        mBackText.setText("BackValue : "+mBackValue);
    }
});
BackThread thread = new BackThread();
thread.setDaemon(true);
thread.start();
```

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Handler(1)

```java
Handler mHandler = new Handler(){
    public void handleMessage(Message msg){
        if(msg.what == 0){
            mBackText.setText("BackVaule : "+ mBackValue);
        }
    }
};


class BackThread extends Thread{
    public void run(){
        while(true){
            mBackValue++;
            mHandler.sendEmptyMessage(0);
            try{Thread.sleep(1000);}catch(InterruptedException e){;}


        }
    }
}
```

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Handler(2) & Thread

```java
public class MainActivity extends Activity{

    int mMainValue = 0;
    TextView mMainText;
    TextView mBackText;
    BackThread mThread;

    LinearLayout linear;
    @Override
    protected void onCreate(Bundle savedInstanceSt
        // TODO Auto-generated method stub
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        linear = (LinearLayout)findViewById(R.id.c

        mMainText = (TextView)findViewById(R.id.mainvalue);
        mBackText = (TextView)findViewById(R.id.backvalue);


        Button btn = (Button)findViewById(R.id.increase);
        btn.setOnClickListener(new Button.OnClickListener(){
            public void onClick(View v){
                mMainValue++;
                mMainText.setText("MainValue : "+mMainValue);

            }
        });
```

```java
    mThread = new BackThread(mHandler);
    mThread.setDaemon(true);
    mThread.start();

}


Handler mHandler = new Handler(){
    public void handleMessage(Message msg){
        if(msg.what == 0){
            mBackText.setText("BackVaule : "+ msg.arg1);
        }
    }
};
```

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```java
class BackThread extends Thread{
    int mBackValue = 0;
    Handler mHandler;

    BackThread(Handler handler){
        mHandler = handler;
    }


    public void run(){
        while(true){
            mBackValue++;
            Message msg = Message.obtain();
            msg.what = 0;
            msg.arg1 = mBackValue;
            mHandler.sendMessage(msg);
            try{Thread.sleep(1000);}catch(InterruptedException e){;}


        }
    }
}
```

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