

# Stack Questions

Code the following.

Use loops and Stacks.

1. Print the stack in the order the elements were pushed.
2. Find the largest element in the stack.
3. Find the smallest element in the stack.
4. Print the stack in the opposite order the elements were pushed.
5. Flip the order of the top two elements in the stack. Print the stack to verify
6. Flip the top and the bottom elements in the stack. Print the stack to verify.

XML

```
<?xml version="1.0" encoding="utf-8" ?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_gravity="center_horizontal"
    android:orientation="vertical">

    <TextView
        android:id="@+id/TextArea"
        android:layout_width="match_parent"
        android:layout_gravity="center_horizontal"
        android:layout_height="wrap_content"
        android:layout_margin="20dp"
        android:background="#a3d7a6"
        android:inputType="textMultiLine"
        android:maxLines="22"
        android:minLines="22"
        android:padding="10dp"
        android:scrollbars="vertical"
        android:textSize="12dp" />

    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center_horizontal"
        android:orientation="horizontal">

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:onClick="Q1"
            android:text="1. In Order"
            android:textSize="14dp" />

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:onClick="Q2"
            android:text="2. Max"
            android:textSize="14dp" />

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:onClick="Q3"
            android:text="3. Min"
            android:textSize="14dp" />

    </LinearLayout>

    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center_horizontal"
        android:orientation="horizontal">

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:onClick="Q4"
            android:text="4. Reverse"
            android:textSize="14dp" />

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:onClick="Q5"
            android:text="5. Flip Top"
            android:textSize="14dp" />

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:onClick="Q6"
            android:text="6. Flip Top Bottom"
            android:textSize="14dp" />

    </LinearLayout>

</LinearLayout>
```



```

        android:layout_height="wrap_content"
        android:layout_gravity="center_horizontal"
        android:orientation="horizontal">

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:onClick="Q4"
            android:text="4. Reverse"
            android:textSize="14dp" />

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:onClick="Q5"
            android:text="5. Flip Top"
            android:textSize="14dp" />

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:onClick="Q6"
            android:text="6. Flip top bottom"
            android:textSize="14dp" />
    </LinearLayout>
</LinearLayout>

```

MainActivity – remember not to cut and paste over the highlighted section.

```

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.TextView;

import java.util.Stack;

public class MainActivity extends AppCompatActivity {

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

    public void Q1(View view) {
        TextView textArea = (TextView) findViewById(R.id.TextArea);
        //clear it
        textArea.setText("");
        //1. Print the stack in the order the elements were pushed.
        Stack s = new Stack();
        s.push("3");
        textArea.append("" + s.pop());
    }

    public void Q2(View view) {
        TextView textArea = (TextView) findViewById(R.id.TextArea);
        //clear it
        textArea.setText("");
        //2. Find the largest element in the stack.
    }

    public void Q3(View view) {
        TextView textArea = (TextView) findViewById(R.id.TextArea);
        //clear it
        textArea.setText("");
        //3. Find the smallest element in the stack.
    }
}

```

```
}

public void Q4(View view) {
    TextView textArea = (TextView) findViewById(R.id.TextArea);
    //clear it
    textArea.setText("");
    //4. Print the stack in the opposite order the elements were pushed.

}

public void Q5(View view) {
    TextView textArea = (TextView) findViewById(R.id.TextArea);
    //clear it
    textArea.setText("");
    //5. Flip the order of the top two elements in the stack. Print the stack to verify

}

public void Q6(View view) {
    TextView textArea = (TextView) findViewById(R.id.TextArea);
    //clear it
    textArea.setText("");
    //6. Flip the top and the bottom elements in the stack. Print the stack to verify.

}
}
```