Getting Started: Understanding Program Lifecycle

The practical work will demonstrate the Android Lifecycle called using Toast message. At the end of the practical, you will have idea on how Call-Back methods are called when:

- app is first launch
- **HOME** button is pressed and launched the app again
- BACK button is pressed and launched the app again

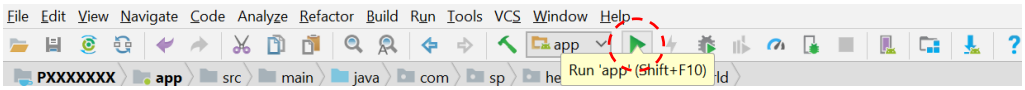
Adding the Seven Call Back Methods and Toast Message

1. In an Android Activity Lifecycle, there are total 7 Callback methods. By default, the callback method *onCreate()* will be created. In this lab, we will add the rest of the six (*onStart()*, *onStop()*, *onDestroy()*, *onPause()*, *onRestart()* and *onResume()*) Callback methods to the project created in your Assignment 1. **Toast** message will be shown whenever the Callback method is called by the program
2. Open the *HelloWorld.java* file in **app > java > com.sp.helloworld** folder. Update the file with the following content highlighted

```
1. package sp.com.helloworld;
2.
3. import android.os.Bundle;
4. import android.app.Activity;
5. import android.widget.Toast;
6.
7. public class HelloWorld extends Activity {
8.
9.     @Override
10.          public void onCreate(Bundle savedInstanceState) {
11.              super.onCreate(savedInstanceState);
12.              setContentView(R.layout.main);
13.              Toast.makeText(this, "onCreate", Toast.LENGTH_LONG).show();
14.          }
15.
16.          @Override
17.          protected void onPause() {
18.            Toast.makeText(this, "onPause", Toast.LENGTH_LONG).show();
19.            super.onPause();
20.          }
21.
22.          @Override
23.          protected void onResume() {
24.            Toast.makeText(this, "onResume", Toast.LENGTH_LONG).show();
25.            super.onResume();
26.          }
27.
28.          @Override
29.          protected void onRestart() {
30.            Toast.makeText(this, "onRestart", Toast.LENGTH_LONG).show();
31.            super.onRestart();
32.          }
33.
34.          @Override
35.          protected void onStart() {
36.            Toast.makeText(this, "onStart", Toast.LENGTH_LONG).show();
37.            super.onStart();
38.          }
39.
40.          @Override
41.          protected void onStop() {
42.            Toast.makeText(this, "onStop", Toast.LENGTH_LONG).show();
43.            super.onStop();
44.          }
```

```
45.
46.          @Override
47.          protected void onDestroy() {
48.              Toast.makeText(this, "onDestroy", Toast.LENGTH_LONG).show();
49.              super.onDestroy();
50.          }
51.
52.      }
```

3. Run the app by clicking on the ▶ button on the Top MENU Bar of Android Studio



4. When the application is launched, take note of the Toast message appears on the emulator and record them down in correct sequence

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5. Click on the **BACK** button on the emulator and record down the **Toast** message appears in correct sequence

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6. Launch the application again using the emulator app icon and record down the **Toast** message appears in correct sequence

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7. Click on the **HOME** button on the emulator record down the **Toast** message appears in correct sequence
[Note : take note of the difference from LINE 5]

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8. Launch the application again using the emulator app icon and record down the Toast message appears in correct sequence **[Note : take note of the difference from LINE 6]**

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