Suppose you have an activity with the following layout (activity_main.xml):

```xml
1  <?xml version="1.0" encoding="utf-8"?>
2  <androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"
3      xmlns:app="http://schemas.android.com/apk/res-auto"
4      xmlns:tools="http://schemas.android.com/tools"
5      android:layout_width="match_parent"
6      android:layout_height="match_parent"
7      tools:context=".MainActivity">
8
9      <FrameLayout
10         android:id="@+id/framelayout"
11         android:layout_width="409dp"
12         android:layout_height="0dp"
13         app:layout_constraintBottom_toBottomOf="parent"
14         app:layout_constraintEnd_toEndOf="parent"
15         app:layout_constraintStart_toStartOf="parent"
16         app:layout_constraintTop_toTopOf="@+id/guideline">
17
18     </FrameLayout>
19
20     <androidx.constraintlayout.widget.Guideline
21         android:id="@+id/guideline"
22         android:layout_width="wrap_content"
23         android:layout_height="wrap_content"
24         android:orientation="horizontal"
25         app:layout_constraintGuide_begin="298dp" />
26
27         <Button
28             android:id="@+id/btn"
29             android:layout_width="wrap_content"
30             android:layout_height="wrap_content"
31             android:layout_marginStart="52dp"
32             android:layout_marginTop="16dp"
33             android:onClick="onChangeClick"
34             android:text="Button"
35             app:layout_constraintStart_toStartOf="parent"
36             app:layout_constraintTop_toTopOf="parent" />
37 </androidx.constraintlayout.widget.ConstraintLayout>
```

Your tasks are:

1. Update MainActivity.Java such that the method onShowFragmentClick (see line 10) gets executed if the user taps on the button 'btn' (see line 27 in activity_main.xml).

2. Update MainActivity.java such that if the method onShowFragmentClick executes, a fragment 'Dashboard.java' is added to the frame layout (see line 9 in activity_main.xml). The fragment must also be added to the back stack with a tag "week6".

And its MainActivity.java:

```java
1  public class MainActivity extends AppCompatActivity {
2
3      @Override
4      protected void onCreate(Bundle savedInstanceState) {
5          super.onCreate(savedInstanceState);
6          setContentView(R.layout.activity_main);
7          //your code goes here
8      }
9
10     public void onShowFragmentClick(){
11         //your code goes here
12     }
13 }
```

Question 2 (5 Marks)

Briefly explain two advantages for Fragments over Activities in Android programming.