```java
1   package edu.asu.msrs.artcelerationlibrary;
2
3   /**
4    * Created by rlikamwa on 10/26/2016.
5    */
6   import android.os.MemoryFile;
7   import android.os.ParcelFileDescriptor;
8
9   import java.io.FileDescriptor;
10  import java.io.IOException;
11  import java.lang.reflect.InvocationTargetException;
12  import java.lang.reflect.Method;
13
14  public class MemoryFileUtil {
15      private static final Method sMethodGetFileDescriptor;
16      static {
17          sMethodGetFileDescriptor = get("getFileDescriptor");
18      }
19
20
21      public static FileDescriptor getFileDescriptor(MemoryFile file) {
22          try {
23              return (FileDescriptor) sMethodGetFileDescriptor.invoke(file);
24          } catch (IllegalAccessException e) {
25              throw new RuntimeException(e);
26          } catch (InvocationTargetException e) {
27              throw new RuntimeException(e);
28          }
29      }
30      public static ParcelFileDescriptor getParcelFileDescriptor(MemoryFile file) throws
    IOException {
31          return ParcelFileDescriptor.dup(getFileDescriptor(file));
32
33      }
34      private static Method get(String name) {
35          try {
36              return MemoryFile.class.getDeclaredMethod(name);
37          } catch (NoSuchMethodException e) {
38              throw new RuntimeException(e);
39          }
40      }
41  }
42
```