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AD-1224 Semester 4

Android Programming : Assignment 1

Ques1: (a) Why JAVA is considered to be platform independent?

Java programs runs on Java Virtual Machine which is platform dependent. But JVM allows java programs compiled anywhere to run on it.

(b) Describe the requirement of Kernel Layer in Android Architechture.

It manages all the drivers such as display drivers, camera drivers, Bluetooth drivers, memory etc. which are necessary for android device to perform. It gives indirect access / authorized access to user for these drivers.

(c) Write code snippet to handle click event on a button named "ButtonA" in an activity.

```
public class MainActivity extends AppCompatActivity
{
    private Button ButtonA;

    @Override
    protected void onCreate (Bundle SavedInstance-
                             -state)
    {
        Super: onCreate (savedInstanceState);
        setContentView (R.layout.activity_main);

        ButtonA = findViewById (R.id.ButtonA);
        ButtonA.setOnClickListener (new View.
                                    OnClickListener()
```

```
{
    @Override
    public void onClick (View view)
    {
        // Do Some Work
    }
});
}
}
```

(d) Explain the following terms:

(i) SDK Manager (ii) Android Emulator

(i) SDK (Software Developement Kit) Manager is a tool that allows user to downled various Android SDK, which are the necessary tool for developement of software.

(ii) Android Emulator is a virtual device that allows to emulate a physical android device on software of PC/laptop on which we are developing our application

Ques 4: (a) What are ART & DVM? Explain.

Dalvik Virtual Machine (DVM) is a virtual machine on top of Linux which enables to run .dex (Dalvik executable file)

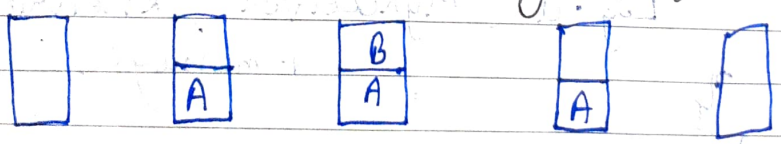
.JAVA → .DEX → DVM

Android Runtime (ART) is better version of DVM, it enables to precompile java code into bytecode thus enabling faster execution as files are already in native form. It need more storage to store apps in native form.

DVM converts bytecode every time you launch app.

ART converts it just once at the time of app installation. Thus faster.

(b) Suppose there are two activities - - - - - - - using lifecycle methods.



A.onCreate()
A.onStart()
A.onResume()

A.onPause()
A.onStop()
B.onCreate()
B.onStart()
B.onResume()
B.onPause()
B.onStop()
B.onDestroy()

A.onResume()
A.onDestroy

Ques 6- Give the necessary code snippets that need to be incorporated to send or to receive brodcast messages.

#To send

```
Intent intent = new Intent();

intent.setAction("com.example.Brodcast");
intent.putExtra("message", "Hello World!");

sendBrodcast(intent);
```

To Receive

```
public class MyReceiver extends
    BrodcastReceiver {

    @Override

    public void onReceive(Context context,
                          Intent intent)
    { if (intent.getAction().equals("com.example.Brodcast"))
      { String message = intent.getStringExtra
                          ("message");
        Log.d("MyReceiver", "Received message:"
                          + message);
      }
    }
}
```