Do you know?

Java, OOPs, Concurrency

- ❖ Difference between StringBuffer, StringBuilder and String.concat?
- ❖ What is the difference between using == and equals on a string?
- ❖ What does the static word mean in Java?
- ❖ When is a static block run?
- ❖ Can we use static and abstract together?
- ❖ What are these final, finally and finalize?
- ❖ What is the difference between an Integer and int?
- ❖ Differences between abstract classes and interfaces?
- ❖ Can you reduce scope of overridden method?
- ❖ What is telescoping constructors?
- ❖ What is name mangling?
- ❖ What is Marker and Functional Interface?
- ❖ What is covariant return type?
- ❖ How to create immutable class?
- ❖ Difference between deep and shallow copy?
- ❖ What is anonymous classes?
- ❖ GC process
- ❖ What are access modifiers in Java?
- ❖ What the difference between local, instance and class variables?
- ❖ Is it possible to access private member of Java class?
- ❖ What are transient and volatile modifiers?
- ❖ Generics in Java

- ❖ Is Java pass by value or pass by reference?
- ❖ Difference between Abstraction and Encapsulation, support with an example
- ❖ What is static and dynamic dependency injection?
- ❖ What are Exceptions in Java? Difference between Checked and Unchecked Exceptions
- ❖ What is a ThreadPoolExecutor? Can this ever cause a memory leak? If yes, how can you prevent it?
- ❖ What are the concurrent atomic classes in Java? What are their advantages?
- ❖ Difference between method overloading and overriding
- ❖ What's better: Composition or Inheritance and why?
- ❖ What is String pooling? What's its impact on GC?
- ❖ What are anonymous inner classes in Java? How are they useful? Do they have any negative implications on the Memory? What is Java 8 Lambdas?
- ❖ How to implement multiple inheritance using interface vs composition?
- ❖ What is JNI, How it works?
- ❖ What is Kotlin? Is it faster than Java?
- ❖ How interface is different in Java 1.8?

Collection, Data Structures, Algorithms

- ❖ Collections framework
- ❖ Difference between List, Set, Queue, Deque, Array, Stack, Map
- ❖ When to use ArrayList vs LinkedList?
- ❖ When to use HashTable vs HashMap vs TreeMap vs LinkedHashMap?
- ❖ How HashMap works in Java? Contract between hashcode and equals
- ❖ What are fail-safe & fail-fast Iterators in Java?
- ❖ What's the difference between an Enumeration and an Iterator?
- ❖ How to implement Arraylist using Array?
- ❖ Which's better: HashMap, ArrayMap vs SparseArray types and why?
- ❖ Difference between PriorityQueue vs BlockingQueue, When to use them?
- ❖ What is Binary Search Tree?

❖ What is Space and Time Complexity of Bubble Sort?

Android

❖ Android architecture

❖ What are main components of Android?

❖ Purpose of AndroidManifest file

❖ Activity lifecycle, difference between onPause and onStop

❖ [Activity Launch Modes](#)

❖ Difference between RecyclerView and ListView?

❖ Why to use Fragment?

❖ Lifecycle of a Fragment

❖ Difference between FragmentPagerAdapter and FragmentStatePagerAdapter?

❖ Is it possible to have Activity without UI?

❖ Is it possible to have Fragment without UI?

❖ Which Lifecycle methods are guaranteed to be called in case of app crash?

❖ When to use Services, Started vs Bound service and IntentService?

❖ Android notification system

❖ Sticky Intent and Silent Notifications

❖ What is Serializable and why Android uses Parcelable?

❖ Difference between Implicit and Explicit Intent

❖ What is the function of an intent-filter?

❖ What is Deep Linking? How does it work?

❖ What can be used for background processing in Android?

❖ How to communicate between background thread and main thread?

❖ Difference between AsyncTask and Thread, What is AbstractThreadedSyncAdapter?

❖ What is a JobScheduler?

❖ What are different ways to store data in Android? What is Direct Boot?

❖ How to securely store tokens, certificates in Android?

❖ Difference between SOAP and REST

- ❖ What is better JSON or XML?
- ❖ Different HTTP verbs - GET POST PUT PATCH
- ❖ Authentication mechanisms - Basic Auth, Digest Auth, OAuth 1.0, 2.x
- ❖ Security token formats - SAML, JWT
- ❖ How to secure network connections - HTTP, Socket?
- ❖ What is SSL pinning? How to overcome man-in-middle attack?
- ❖ What is Doze mode? How to optimize battery utilization?
- ❖ How to optimize application for Mobile Network? Why WiFi are more battery efficient over 3G/4G?
- ❖ How often Sqlite database should be closed inside app?
- ❖ How can we optimize Sqlite queries?
- ❖ Can we create column with Date-time or Date type in Sqlite?
- ❖ What are content providers? Are they thread-safe? How to create your own content providers?
- ❖ Is ContentProvider a security breach considering android apps are sandboxed?
- ❖ What is the use of android:protectionLevel in <permission> tag in manifest?
- ❖ Why Support Library was introduced in Android?
- ❖ What is Android Data Binding?
- ❖ How to prevent ANR? What the max time for which you can block the UI thread?
- ❖ How does third party image loading libraries work?
- ❖ What are different ways to store data in your Android app?
- ❖ What is the DVM and ART? Why DVM over JVM?
- ❖ What is a Sticky Intent?
- ❖ What is a PendingIntent?
- ❖ What is AIDL? Enumerate the steps in creating a bounded service through AIDL?
- ❖ How would you preserve Activity state, handle AsyncTasks during a screen rotation?
- ❖ What is apk file? How to reduce size of apk?
- ❖ How to find memory leaks in Android applications?
- ❖ How android supports multiple resolutions, form factors, orientations?

- ❖ How to make sure that your application is compatible with older versions of android?
- ❖ What are third party ORM and why to use them?
- ❖ What is a Loader?
- ❖ What is the StrictMode?
- ❖ What is Lint? What is it used for?
- ❖ What is the difference between ListView and RecyclerView?
- ❖ What is the ViewHolder pattern? Why should we use it?
- ❖ What is the best way to update the screen periodically?
- ❖ Have you developed widgets? Describe process
- ❖ What is Context in Android? Difference between Activity context and Application context
- ❖ What is style and theme? What is a Spannable?
- ❖ What's Looper, Handler and HandlerThread?
- ❖ Do you know how to profile layout with Hierarchy Viewer?
- ❖ Which is fastest layout in Android?
- ❖ How RelativeLayout, LinearLayout, FrameLayout works?
- ❖ What's the purpose of ConstraintLayout?
- ❖ How to create custom attributes and use them in layout files?
- ❖ How to create Custom views?
- ❖ Different rendering options - Canvas, OpenGL, RenderScript
- ❖ Property vs View (Tween, Frame) Animations
- ❖ What is Flat vs Material Design? Different Material Design Components
- ❖ What is FAB? How do you specify the gravity for FAB?
- ❖ What is Material Motion?
- ❖ Difference between ViewGroup vs View
- ❖ What is 9-patch image? How to create one?
- ❖ How Push Notification works?
- ❖ How to create a keystore in android?
- ❖ Runtime Permissions
- ❖ Different Android command line tools - DDMS, ADB, AAPT

- ❖ Architecture Design associated with popular apps like Uber, Ola, Facebook, Whatsapp, Snapchat, Instagram
- ❖ What is I18N vs L10N? How to support multiple languages in Android?
- ❖ What is significance of res (Resources) folder?
- ❖ Steps to add support for additional language e.g., spanish in your app.
- ❖ What's gradle and how it works? Command lines for creating builds.
- ❖ Purpose of Proguard
- ❖ Difference between Callable and Runnable
- ❖ How to create production build? What is build variant (product flavors and build types)?
- ❖ How to upload build on app store? What is Staged Rollouts?
- ❖ What is Alpha/Beta test release? What is Open and Closed Beta?

Design Principles, Patterns

- ❖ SOLID, GRASP, WET, DRY, KISS, YAGNI
- ❖ Singleton Pattern, What is double-checked locking?
- ❖ What are Creational, Structural and Behavioral Design Patterns?
- ❖ Difference between Builder Pattern and Factory Pattern?
- ❖ When to use Factory vs Abstract Factory Pattern?
- ❖ Difference between Adapter Pattern and Bridge Pattern?
- ❖ Observer pattern, What is Observer - Observable?
- ❖ Difference between Strategy Pattern and State Pattern?

Architecture

- ❖ What's MVP and Why MVP?
- ❖ Can we write business logic in Model?
- ❖ What is Clean Architecture?
- ❖ Difference between MVC, MVP and MVVM?
- ❖ Android Architecture Components, what is ViewModel and LiveData?

❖ What is Microservices Architecture?

Third Party Frameworks

❖ How to create library project? How to manage dependencies?

❖ Will use of third party libraries impact compile time? size of application, application performance?

❖ Usage, Pros and Cons of following libraries and frameworks

  ➢ Data Parsing

    ■ JSON - JSON, GSON, Jackson, Moshi

    ■ XML, SOAP, KSOAP - DOM, SAX, StAX, XML Pull Parser

  ➢ Image loading - Picasso, Universal Image Loader, Glide, Fresco

  ➢ Networking - Retrofit, Volley, OkHttp

  ➢ Event Driven Programming - Otto, greenrobot-EventBus

  ➢ Injection - Dagger 2, ButterKnife

  ➢ Database - - SQLite, Realm, Couchbase Mobile

  ➢ ORM - OrmLite, greenDAO, ActiveAndroid, SugarORM, DBFlow

  ➢ Custom Views - ActionBarSherlock, SlidingMenu, NineOldAndroids, Rebound, MPAndroidChart, AndroidViewAnimations

  ➢ Crash Monitoring - Fabric Crashlytics, BugSense, Crittercism, Apphance

  ➢ Analytics and Marketing platform - Google Analytics, Mixpanel, Firebase, Appsee, Leanplum, Localytics, Flurry, Amplitude, Adobe Analytics, Countly, Marketo, branch.io, Optimizely

  ➢ MBaaS - Firebase, CloudKit, Kinvey, AWS Mobile

  ➢ CI-CD - Fastlane, Jenkins, Bamboo, Travis-CI, Circle-CI

  ➢ Social Integration - Facebook, Twitter, Linkedin, Google plus

  ➢ AR/VR, Gaming - Vuforia, Unity, Cocos2d-x, AndEngine

  ➢ Others - RxJava, RxAndroid, Joda-time, Guava, ZXing, Abby, LeakCanary, Timber, ExoPlayer, Urban Airship, Fabric Beta

Testing

- ❖ What's TDD and BDD?
- ❖ Unit test, What's the significance of unit, integration testing?
- ❖ Instrumented Unit Tests?
- ❖ What is Espresso?
- ❖ What is UI-Automator?
- ❖ What is Robotium, Robolectric?
- ❖ What is Mockito and Why Mockito is used?
- ❖ How to calculate Test Coverage?

SDLC, Agile

- ❖ What are different SDLC? Waterfall, Iterative, Agile, Lean (Scrum, Kanban, XP)?
- ❖ How Agile Methodologies can really help your project?
- ❖ How to follow agile and plan your sprints?
- ❖ What is Scrum in Agile?
- ❖ What is Epic, User Story, Task?
- ❖ What is Sprint? How to calculate Story Points, Sprint Velocity?
- ❖ What is Product, Sprint Backlog?
- ❖ What is acceptance criteria and definition of done?
- ❖ What is daily scrum meeting? How is it conducted?
- ❖ Role of Scrum Master, Product Owner and Scrum Team
- ❖ What are different Sprint Ceremonies - Kick-off, Planning, Daily, Demo, Review, Retrospective?
- ❖ What are Sprint Burndown, Burnup charts?

Source Version Control

- ❖ Difference between Git vs SVN

- ❖ What is Git fork? What is difference between fork and branch? How to create tag?
- ❖ What is git cherry-pick?
- ❖ How to revert previous commit in git?
- ❖ How to rebase master in git? Difference between rebase and merge. How to squash or fixup commits?
- ❖ git stash, pop
- ❖ Branching strategies - Feature, Release branching, Git flow, Lean Git flow