50 Frequently Asked Kotlin Interview Questions and Answers

By Mehedi Hasan In Programming Tips

Kotlin has become a hot topic for developers since the day Google announced official support for it alongside Java. It can be used for developing modern Android and iOS apps without getting distracted by issues like ecosystem and portability. So, if you're a Java developer looking to break into iOS development, Kotlin can also be the ideal solution. Due to its rising popularity, enterprises are lined after Kotlin experts. If you want to get a job as a mobile app developer at renowned companies, you'll need to master some essential Kotlin interview questions. We've curated this well-thought guide to help you get started with Kotlin and increase your job opportunities.

Essential Kotlin Interview Questions in 2020

There's no doubt that tech companies will continue to increase hiring Kotlin developers. Since you can develop both Android and iOS applications using Kotlin, it will increase development opportunities and reduce cost by a large factor. Our editors have worked very hard to put together this list. Hopefully, these Kotlin interview questions will help you get your next mobile app developer position easily.

1. What is Kotlin?

Kotlin is a robust programming language developed to run on top of the JVM(Java Virtual Machine). It is developed by Jetbrains, a popular IT company famous for building top-quality development tools. Kotlin is statically typed and offers exceptional support for functional programming.

Additionally, Kotlin addresses some glaring issues faced by many Java programmers such as null-based errors. It can be used for developing both Android and iOS apps alongside general-purpose software. Due to its extreme compatibility with Java, developers can write new features for their Java-based applications directly in Kotlin.

2. Is Kotlin better than Java?

Often employers ask such questions to measure the depth of job seekers. Since comparing two languages can never bear fruitful results, you should instead discuss their individual pros and cons for demonstrating your expertise. Java is still a better language for building enterprise-grade consumer applications due to its massive feature list and unending community support.

However, despite being a new language, Kotlin interoperates nicely with Java. It allows developers to create innovative applications without writing hundreds of lines of code. Kotlin's strong type inferences make it a solid choice for developing next-generation apps. Moreover, since it can be also used for developing iOS apps, developers don't need to embrace new stacks anymore.

3. Why Use Kotlin in Mobile App Development?

Since Kotlin simplifies many syntactical elements of Java, it's easier to write concise, well-documented code. Additionally, since it runs directly on JVM, enterprises hardly need to invest in new tech stacks. So the cost-benefit adjustment is excellent.

Moreover, Kotlin has already started to replace many Java-based Android apps, alongside iOS apps written in Swift. This number will only increase over time and adapting to Kotlin will become a must for modern enterprises. So, to stay ahead of the competition, developers should embrace Kotlin today.

4. What are Kotlin's Best Features?

Some of Kotlin's best features are-

- It supports both object-oriented and functional programming paradigm.
- It provides easy to use lambda functions that are unavailable in Java.
- Maintaining Kotlin is considerably cheap and provides excellent fault-tolerance.
- Allows developing Node.js applications and JVMs.
- Great support for asynchronous communication.
- Exceptional compatibility with existing Java codes.

5. What is Null Safety in Kotlin?

Kotlin comes with in-built protection against unwanted null references which allows it to be more fault-tolerant. It thus allows programs to reduce **NullPointerExceptions** during runtime and prevents unwanted program crashes. This is a common problem faced by most existing Java software and causes losses costing millions of dollars. This is often coined as *Null Safety* among Kotlin developers.

6. Differentiate between Kotlin's Variable Declaration Methods

Job seekers are often posed with this issue in their Kotlin interview questions. Kotlin allows you to declare variables in two different ways. It exposes the *val* and *var* keyword for this purpose. However, as you will see, they're quite different in their working.

```
var number: Int = 10
number = 15
```

The first line declares an integer variable called number and assigns 10 as its value. The second line then replaces this 10 with a new value of 15. You'll need to declare variables this way if you want to change them later down the program.

```
val number: Int = 10
number = 15
```

The above code block is, however, invalid and will result in compilation errors. Kotlin doesn't allow users to change the value of variables that were created using the val keyword. You should use it for declaring values that remain the same throughout your code.

7. What's the Problem with Below Code?

```
val name = "UBUNTU"
val upperCase = name.toUpperCase()

name.inc()
```

The above code snippet will fail to compile due to type exception. Kotlin is statically typed and implements strong type inferences. Since the value of the name variable is a String, Kotlin assumes that name is also a type of String. Thus the second line is perfectly valid because the method *toUpperCase()* is a String method. The last line, however, tries to perform an increment operation. This line causes Kotlin to throw a compilation error since *inc()* can only work with Int values, not Strings.

8. What is Nullability in Kotlin?

Many programming languages like C and Java allow variable declarations without setting initial values. These variables usually hold a value of type null. If you invoke methods on such variables later in your program, it will crash in runtime. Kotlin doesn't allow programmers to declare variables this way and reduces null-based crashes significantly.

```
val name: String = null
```

Thus, the above line won't compile in Kotlin. You'll need to define variables as nullable if you want it to contain null values.

```
val name: String? = null
```

This time, name can contain either String or null.

9. Does Kotlin Allow Calling Java Functions?

Yes, Kotlin allows the programmer to call existing Java procedures from within a Kotlin program. Functions such as the getter and setter duo are represented as properties. Kotlin assigns Unit to each void value that comes from a Java function. Thus, the Unit in Kotlin is simply void in Java code.

You will need to escape some Kotlin keywords in Java though. Since keywords like is, in, and object are valid identifiers in Java, you'll need to escape them in Java libraries using the backtick (`) character. Additionally, Kotlin implements features like platform types and annotations to ensure null safety when calling external Java functions.

10. Describe Kotlin's Interoperability with JavaScript

During many Kotlin interview questions, interviewees are asked about the degree of flexibility Kotlin allows for JavaScript applications. Kotlin enables Android and iOS devs to seamlessly target JavaScript. What this means is, you can easily trans-compile a program written in Kotlin to native JavaScript code. This allows developers to easily create software for the popular Node.JS platform.

Kotlin enables developers to control all elements of JS programming- such as manipulating the DOM, leveraging graphics, managing the server-side, and so on. Additionally, you can utilize Kotlin with existing JS libraries like jQuery, and React. Visit this guide for detailed information about Kotlin to JavaScript trans-piling.

11. Why Doesn't Kotlin Feature Explicit Ternary Conditionals?

Kotlin doesn't offer any specific ternary operator of the form `c = (a < b) ? a : b;` like Java or C. It omits this option because you can do the same with the if expression in Kotlin. Since the above ternary operator is essentially an expression of the form `(condition ? then : else)`, Kotlin simply allows you to do this using its standard if keyword.

```
val c = if (a < b) a else b
```

This line of code does the same thing in Kotlin as the ternary operator does in Java. You can also pack blocks inside if-else branches.

12. What is the Function of the Elvis Operator?

The Elvis operator in Kotlin allows app developers to handle null-based exceptions. It is a compelling feature of Kotlin which enables programmers to reduce runtime crashes by a considerable margin. Although you can still handle your nulls yourself, the Elvis operator makes it relatively straightforward.

```
val z = x ?: return y
```

In this line, z will only contain the value of x if it is not null. Otherwise, the entire expression will halt executing and return y. It works since the return statement is also an expression. So, Elvis operator's look like `a ?: b` in Kotlin.

13. Explain the Workings of when in Kotlin

During many Kotlin interview questions, job seekers face questions on conditional statements. Apart from the traditional if-else, Kotlin features another conditional construct called when. You can think of it as a replacement for the switch construct available in C and other popular programming languages. However, in Kotlin, when is an expression; while the switch is a statement in C.

```
val number = true
val final = when(number) {
true -> println("It is indeed true!")
false -> println("Oops! false")
}
```

We demonstrated a simple example using boolean expressions. You'll find this handy when working with exceptionally large conditional branches.

14. What is Smart Casting in Kotlin?

Smart cast is a simple but useful mechanism that allows programmers to reduce most null-based errors. The Kotlin compiler does this by inferring the variables. We've witnessed it in a previous question. Below, we're illustrating a simple example of smart casting in Kotlin.

```
fun test(a: Any) {
        if (a is String) {
            print(a.length)    // a is cast to String by the compiler automatically
        }
}
```

15. What are Co-Routines in Kotlin?

Kotlin aims at increasing app performance via leveraging asynchronous execution. Contrary to traditional execution flows, asynchronous executions don't get blocked on I/O. It makes Kotlin ideal for building large-scale IT infrastructures. Take a look at the below example to understand co-routines more clearly.

```
import kotlinx.coroutines.*

fun main() {
GlobalScope.launch { // creates a new coroutine and continues
delay(2000L) // non-blocking delay for 2000 milliseconds or 2 sec.
println("Hello")
}
println("World!") // execution continues even while coroutine waits
Thread.sleep(4000L) // block main thread for 4 seconds
}
```

This program will display the string *"World!"* before displaying *"Hello"*. The program first creates a new coroutine within the *GlobalScope* and wait for 2 seconds. Meanwhile, the main thread will continue and print *"World!"*. It will wait for 4 seconds then and after two seconds, the coroutine will print *"Hello"*.

16. List Some Features of Kotlin that are Absent in Java

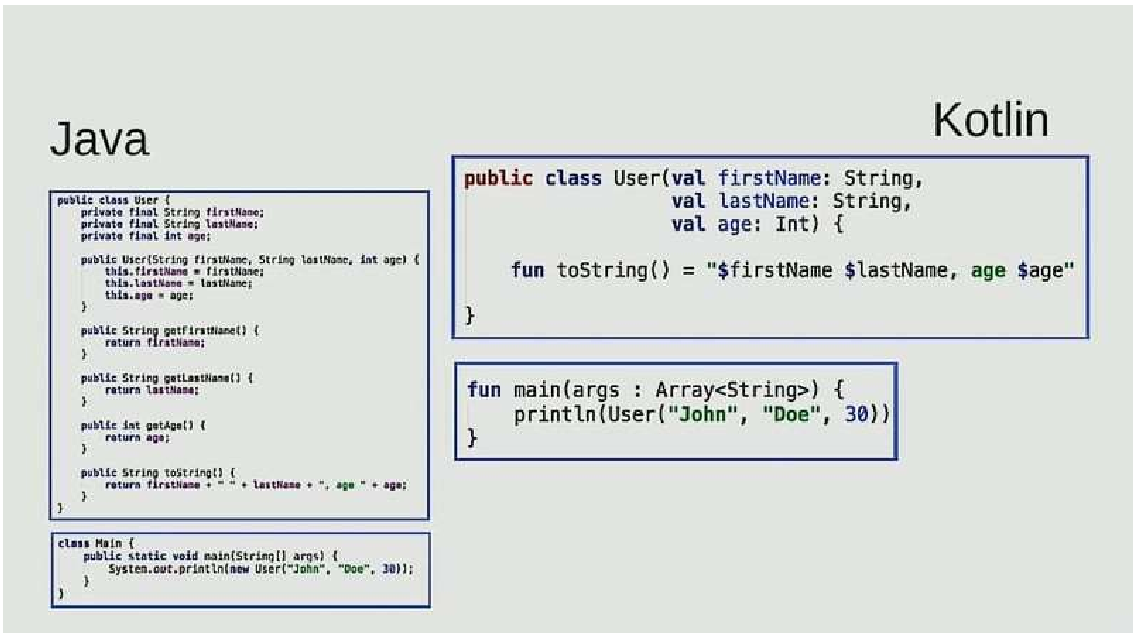
Sometimes Kotlin interview questions are designed in a way that helps companies understand the potential of future employees. Below, we're listing some functionalities of Kotlin that are simply unavailable in the Java programming language.

- Null Safety – a flagship feature of Kotlin
- Co-Routines – enables asynchronous programming
- Operator Overloading – a key feature missing in Java
- Smart Casts – allows casting inferences
- Companion Object – another useful functionality

17. What Extension Methods does Kotlin provide to java.io.File?

Java uses the *java.io.File* class for providing abstract representations of file or directory paths. Kotlin offers the below extension methods to this file –

- bufferedReader() – allows to read the contents of a file and put them into a buffer
- readBytes() – can be used for reading the contents of a file into a ByteArray
- readText() – allows reading file contents and puts them to a String
- forEachLine() – reads a file line by line
- readLines() – line by line reads a file and puts them into a List



```java
public class User {
    private final String firstName;
    private final String lastName;
    private final int age;

    public User(String firstName, String lastName, int age) {
        this.firstName = firstName;
        this.lastName = lastName;
        this.age = age;
    }

    public String getFirstName() {
        return firstName;
    }

    public String getLastName() {
        return lastName;
    }

    public int getAge() {
        return age;
    }

    public String toString() {
        return firstName + " " + lastName + ", age " + age;
    }
}
```

```java
class Main {
    public static void main(String[] args) {
        System.out.println(new User("John", "Doe", 30));
    }
}
```

```kotlin
public class User(val firstName: String,
                  val lastName: String,
                  val age: Int) {

    fun toString() = "$firstName $lastName, age $age"

}
```

```kotlin
fun main(args : Array<String>) {
    println(User("John", "Doe", 30))
}
```

18. How to Migrate Java Code to Kotlin?

It's possible for us to migrate existing Java codes to Kotlin easily using the IntelliJ IDEA from JetBrains. The below section demonstrates how to do this in a sequence.

- Update the build file to support Kotlin compilation
- Open the necessary .java file using IDEA
- Copy all the required code snippets
- Create a Kotlin file ending with .kt
- Paste the code snippets in this Kotlin file
- Enter Yes when IDEA asks if it should convert the Java code to Kotlin

Visit this official guide to learn more about this issue.

19. Why doesn't Kotlin Feature Macros?

Macros are useful in a number of programming scenarios. However, they tend to create a mess of your project and often confuse new developers. This is why JetBrains, the developers behind Kotlin omitted this feature altogether. Moreover, developers often find it hard to test or optimize codebases that contain a lot of macros. So, omitting macros is a design decision. Ther developers of Kotlin are, however, working on features like serialization and compiler plugins to address some shortcomings of this decision.

20. Explain the Different Constructors in Kotlin

Kotlin offers two different constructors for initializing class attributes. It varies from Java in this regard since the latter only provides a single constructor. These two constructors are known as primary constructors and secondary constructors in Kotlin. During many Kotlin interview questions, job seekers are asked to point out the differences between these two.

- Primary Constructor – resides in the class declaration header
- Secondary Constructor – declared inside Kotlin class body and may have multiple instances

21. Is It Possible to Execute Kotlin Code without JVM?

As we've mentioned many times already, Kotlin compiles into bytecode and runs on top of the Java Virtual Machine(JVM). However, it's also possible to compile Kotlin into native machine code and thus execute successfully without requiring any JVM at all.

Developers can use the Kotlin/Native tool for doing this effortlessly. It's an effective LLVM backend that allows us to create standalone executables. It exposes some additional functionalities as well. Consult their official documentation for more information.

22. How do Ranges Work in Kotlin?

Ranges allow our programs to seamlessly iterate over a list or progression. It's one of the many iterators available in Kotlin and enhances the readability of your program. The below code snippets demonstrate some basic functions of Kotlin ranges.

```
for (i in 1..5) {
print(i) // prints 12345 as output
}

val x = 6
for (i in 1..10){
if( i!=x ) continue
print(i) // prints only 6
}
```

23. Explain the Structural Expressions of Kotlin

Kotlin has three different structural expressions – namely return, break, and continue. We're discussing each one of them with short notes.

- return – this expression halts the program execution and returns from the enclosing function
- break – it is used for terminating the nearest enclosing loop in Kotlin
- continue – it allows the execution to proceed to the next iteration without performing the current operation

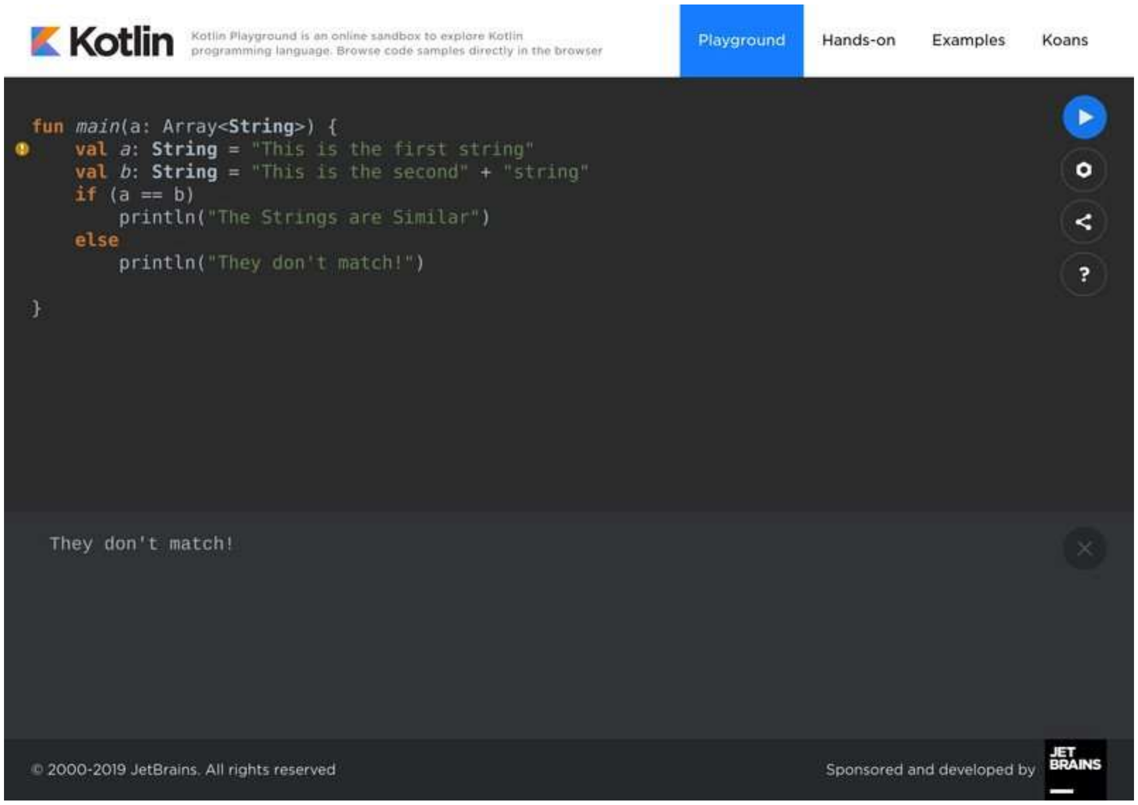
The second snippet of the previous example prints the value 6 since we've used continue. If we had used break instead, it would print nothing.

24. How to Compare Two Strings in Kotlin?

String processing comprises an essential portion of any app development. Interviewees are often asked how to handle this during Kotlin interview questions. You can use the equality operator '==' to do this, as demonstrated by the following example.

```
val a: String = "This is the first string"
val b: String = "This is the second" + "string"
if (a == b) println("The Strings are Similar")
else println("They don't match!")
```

Additionally, you can use the *compareTo()* function for comparing strings in Kotlin.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```
fun main(a: Array<String>) {
    val a: String = "This is the first string"
    val b: String = "This is the second" + "string"
    if (a == b)
        println("The Strings are Similar")
    else
        println("They don't match!")

}
```

```
They don't match!
```

25. Describe For Loops in Kotlin

Loops are a crucial programming construct that allows us to iterate over things as our program requires. Kotlin features all the commonly used loops such as for, while, and do-while. We're describing the for loop in a nutshell in the following section.

```
val sports = listOf("cricket", "football", "basketball")
for (sport in sports) { // for loop
println("Let's play $sport!")
}
```

The above snippet illustrates the use of the for loop in Kotlin. It's quite similar to Python and Ruby.

26. Describe While and Do-While Loops

The while and do-while loops work quite similar but have a specific distinction. The do-while loop executes at least once, even if the first conditional expression is returned as false. Contrary to this, while loops will stop execution if the loop isn't true at a given time.

```
var i = 1
while (i < 5) { // while loop
println(i)
i++
}
```

This code will print the numbers 1 to 4 and then terminate. Now, take a look at the below do-while snippet.

```
var i = 6
do{ // do-while
println(i)
i++
}while(i<5)
```

Although the condition to while is false, it will print the number 6 as its output. This happens since the execution of the do block takes place without checking the condition first.

27. What are the Kotlin Data Classes?

Kotlin offers a convenient way of storing values by means of the data class. A data class comes with many useful in-built methods such as for copying, string representations, instance collections, and so on. Data classes are defined using the data modifier. Some auto-generated methods available to a newly created data class are – *toString*, *equals*, *copy*, *hashCode*, and *componentN* functions. The first method returns a string representation, equals check for equality among properties, and copy allows cloning.

28. What are Kotlin Sealed Classes?

Sealed classes are another extremely useful feature of this modern-day programming language. They can be used to restrict the inheritance hierarchy of a class. All you need to do is define a class as sealed, and nobody will be able to create subclasses that belong to this sealed class.

These classes will come in handy when you use them inside `when` expressions. If you can perfectly cover all possible cases, you won’t have to use the else clause. However, remember that sealed classes are abstract by themselves and you can not instantiate one directly.

29. How to Create Volatile Variables?

Volatile variables are a compelling feature that enables programmers to control threads, and CPU time more effectively. Declaring a variable as volatile is quite easy and differs slightly than from Java.

```
@Volatile var name:String = "something"
```

Actually, volatile is not a keyword in Kotlin, as opposed to Java. Rather it is an annotation and makes each data write visible to all other threads immediately.

30. What is the Purpose of Object Keyword?

Kotlin provides an additional keyword called `object` alongside its standard object-oriented features. Contrary to the traditional object-oriented paradigm where you define a class and create as many of its instances as you require, the object keyword allows you to create a single, lazy instance. The compiler will create this object when you access it in your Kotlin program. The following program provides a simple illustration.

```
fun calcRent(normalRent: Int, holidayRent: Int): Unit {
val rates = object{
var normal: Int = 30 * normalRent
var holiday: Int = 30 * holidayRent
}

val total = rates.normal + rates.holiday
print("Total Rent: $$total")
}

fun main() {
calcRent(10, 2)
}
```

31. Explain the Class Modifiers in Kotlin

During most Kotlin interview questions, employers like to test job seekers on their grasp of classes and other object-oriented programming constructs. Class modifiers allow developers to customize their class declarations as they need it. We're demonstrating the four modifiers Kotlin exposes to programmers for this purpose.

- private – the class declaration is only visible inside the file that contains it
- public – these class declarations are visible everywhere, it's the default in Kotlin
- protected – makes the class unavailable for top-level Kotlin declarations
- internal – makes the declaration available for all the same modules

32. Explain the Fundamental Data Types of Kotlin

Kotlin data types define the procedures available on some data. The compiler allocates memory space for variables using their data type. Like many popular programming languages, Kotlin features some often-used data types. Take a look at the below section for a short overview of various Kotlin data types.

- integers – contrary to Python, Kotlin has limited size for integers; available integer types are Long, Int, Short, and Byte
- floats – floating-point values contain fractional values; they can be declared using Float or Double
- characters – represented by the Char modifier; usually hold a single Unicode character
- strings – they are created using the String type and are immutable like in Java
- booleans – represents the boolean values true and false
- arrays – arrays in Kotlin are represented using the Array class

33. How do String Interpolations Work in Kotlin?

String interpolations work with multiple placeholders and first evaluate their value to display the final string output. This final output will contain the corresponding values of the placeholders. The below code snippet will illustrate a simple example of Kotlin string interpolation.

```
fun main(args: Array<String>) { // String Interpolation
print("Please enter your name here:")
val name:String? = readLine()
print("Hello, $name!")
}
```

Here, the Kotlin compiler first receives the user input and interpolates this value in place of the placeholder *$name*. The last line of the snippet is translated by the compiler as shown below –

```
new StringBuilder().append("Hello, ").append(name).append("!").toString()
```

34. How to Convert Strings to Integer?

It's common for app developers to convert string to int for various reasons. Kotlin allows you to go about this in multiple ways. Below we're demonstrating a simple Kotlin program for this purpose.

```
fun main(args: Array<String>) {
    for (string in args) {
        try {
            val parsedValue = string.toInt()
            println("The parsed integer value is $parsedInt")
        } catch (nfe: NumberFormatException) {
            // not a valid int
        }
    }
}
```

You can also do this without using explicit try-catch blocks. For this, you'll need to utilize the *toIntOrNull()* method.

35. What's the Difference Between const and val?

Earlier we illustrated how to create variables that only contain fixed data using the val keyword. However, Kotlin offers the const keyword for creating constants like the C programming language. The key difference between val and const is their execution phase. Kotlin sets the properties of val at runtime by default. On the other hand, const is set by the compiler during the program's compiler time.

```
const val str = "Fixed string!" // global variable
fun main(args: Array<String>) {
const val x = 4
const val str = "New string.." // local variable
}
```

Additionally, you can not use const inside the local scope, thus the above code block will fail to compile. This modifier is also not applicable on var.

36. What's the Entry Point for Kotlin Programs?

Kotlin, like many popular programming languages, relies on a specific entry point. The *main()* function is this point, similar to other OOP languages such as C++ and Java. Developers can easily define the command-line arguments taken by Kotlin programs. For this, you'll need to pass *args: Array<String>* to this *main()* function.

It takes a somewhat different syntax than traditional Java programs. Below we're illustrating the differences between the *main()* function in both Java and Kotlin. You can easily compare them for a better understanding.

```
public static void main(String[] args) // Entry to Java Programs

fun main(args: Array<String>) // Entry to Kotlin Programs
```

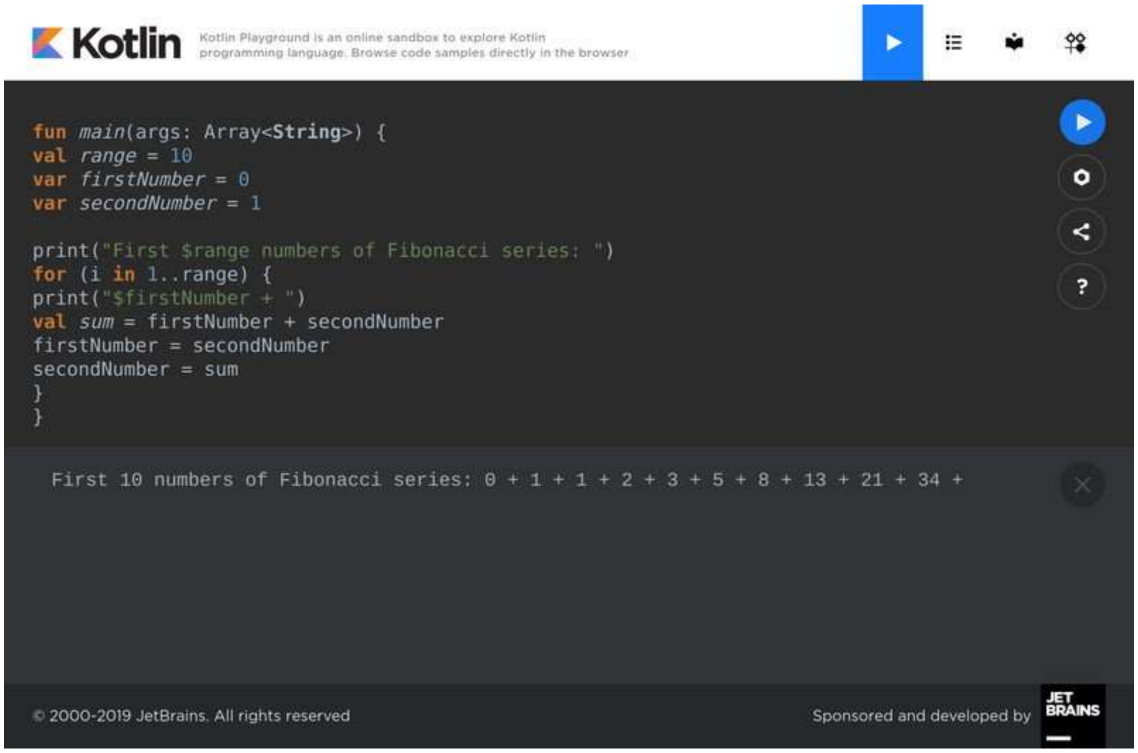
37. Write a Kotlin Program to Display the Fibonacci Series

Most Kotlin interview questions aim to find out the knowledge of the candidates for practical problems. The Fibonacci series is a common question faced by job seekers in many Kotlin interviews. It's a mathematical sequence of numbers where each number is the sum of its previous two numbers.

```
fun main(args: Array<String>) {
val range = 10
var firstNumber = 0
var secondNumber = 1

print("First $range numbers of Fibonacci series: ")
for (i in 1..range) {
print("$firstNumber + ")
val sum = firstNumber + secondNumber
firstNumber = secondNumber
secondNumber = sum
}
}
```

We've used a for loop for computing this series. However, you can solve this problem by using several strategies.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```
fun main(args: Array<String>) {
val range = 10
var firstNumber = 0
var secondNumber = 1

print("First $range numbers of Fibonacci series: ")
for (i in 1..range) {
print("$firstNumber + ")
val sum = firstNumber + secondNumber
firstNumber = secondNumber
secondNumber = sum
}
}
```

```
First 10 numbers of Fibonacci series: 0 + 1 + 1 + 2 + 3 + 5 + 8 + 13 + 21 + 34 +
```

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38. Write a Program for Determining if a Number is Prime or Not

Prime numbers play a major role in modern computing, particularly in number theory. Software developers usually use them to implement safe encryption mechanisms for their applications. We're illustrating a simple Kotlin program that determines whether a particular number is prime or not.

```
fun main( args: Array<String> ) {
print("Enter the number:")
var num = readLine()!!.toIntOrNull()
var flag = false

if( num != null ){
for (i in 2..num / 2) {
if (num % i == 0) {
flag = true
break
}
}
}
if (flag)
println("$num is not a prime number.")
else
println("$num is a prime number.")
}
```

39. Write a Program for Finding the Sum of Natural Numbers

Natural numbers are all positive values starting from 1. The sum of these numbers can be easily calculated using the Kotlin's loop constructs. Below, we're demonstrating a simple program that takes user input and calculates the sum of all natural numbers up to that point.

```
fun main( args: Array<String> ) {
print("Enter the number:")
var num = readLine()!!.toIntOrNull()
var sum = 0 // inital value of summation

if( num != null ){
for (i in 1..num) {
sum += i
}
println("Sum = $sum")
}
}
```

40. Explain the Differences Between ? and ‼ in Terms of Null Safety

Kotlin provides two different mechanisms for unwrapping the contents of a nullable type. The Elvis operator '?' provides a safe call and doesn't crash your program if the content is of type null. However, on the other hand, ‼ is used for force unwrapping the contents of a nullable variable. This is performed during runtime and thus may lead to a potential system crash if the value returned is null. So, you should only use the ‼ modifier when you're certain about the value of your variables.

41. Find Factorial of Numbers using Recursion

The factorial of a number is defined as the product of all numbers starting at 1 and up to that number. We can easily write a Kotlin program to do this job using either loops or recursion. The latter is a divide and conquer programming strategy which divides a routine into multiple similar but small sub-routines.

```
fun main(args: Array<String>) {
print("Enter the number:")
val number = readLine()?.toInt()
if(number != null ){
val factorial = multiplyNums(number)
println("Factorial of $number = $factorial")
}
}
fun multiplyNums(number: Int): Long {
if (number >= 1)
return number * multiplyNums(number - 1) // recursive call to multiplyNums
else
return 1
}
```

42. What is Kotlin Multiplatform?

Kotlin developers continue to roll out new and exciting features for developers. The multiplatform feature is one such experimental feature that enables programmers to share code between several platforms such as JavaScript, iOS, and desktop apps.

This is becoming increasingly popular among modern developers because it reduces the amount of code by a considerable factor. You can use much of the same codebase for writing apps for different platforms thanks to this feature. Simply create a shared module for your apps and list the dependencies. Now, you can create separate modules for different platforms and integrate the core functionalities using the common module.

43. How do Lambda Functions Work in Kotlin?

A lambda function is a small, self-contained block of code that can be passed around your program for greater flexibility. They're usually written inline and solve basic but frequent programming tasks. We take a closer look at some simple Kotlin lambda functions to understand it in more detail.

```
fun main(args: Array<String>) {
val greet = { println("Hello!")} // first lambda function
greet()

val product = { x: Int, y: Int -> x * y } // second lambda function
val result = product(3, 5)
println("Product of two numbers: $result")
}
```

The first lambda greets the user with the text "Hello" while the second one returns the product of two numbers. Lambda functions are anonymous, meaning they don't have any names.

44. Explain Why the Following Code Fails to Compile

```
class A{
}
class B : A(){
}
```

Classes in Kotlin are final by default. So, you can not inherit the attributes of the first class A from the second class B. You will need to declare the first class as open for solving this issue. The below snippet will illustrate this for you.

```
open class A{
}
class B : A(){
}
```

Now, this code will compile just fine and execute as expected. Kotlin exposes this `open` modifier to allow flexible yet secure class inheritances.

45. How do Destructuring Declarations Work in Kotlin?

Kotlin allows developers to assign multiple values to variables from data stored in objects or arrays. It's a very smart feature and employers often ask about this during Kotlin interview questions. We're demonstrating a quick example below to help you understand this concept more clearly.

```
data class Book(val name: String, val publication: String){
}

fun main(args: Array<String>) {
val (name, publication) = Book("Kotlin for Dummies", "O'Reilly")
println(name)
println(publication)
}
```

When compiled, this program will return the name and publication of the book from the specified data class. The destructuring takes place in the first line inside the main function.

46. Write a Program to Swap Two Numbers Without Using Temporary Variables

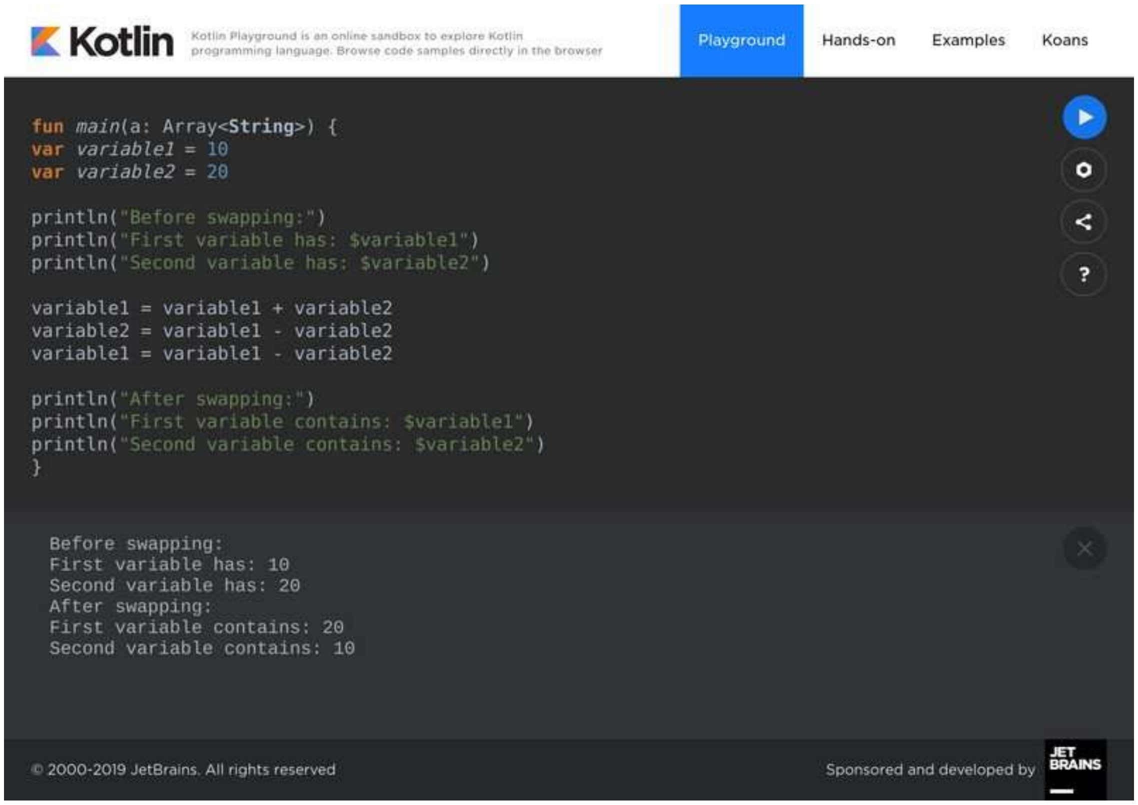
Swapping two numbers using a temporary variable is a common practice for many. However, we can easily swap values among variables without using any such variables. Take a look at the below Kotlin program to find out how to do this in action.

```
fun main(a: Array<String>) {
var variable1 = 10
var variable2 = 20

println("Before swapping:")
println("First variable has: $variable1")
println("Second variable has: $variable2")

variable1 = variable1 + variable2
variable2 = variable1 - variable2
variable1 = variable1 - variable2

println("After swapping:")
println("First variable contains: $variable1")
println("Second variable contains: $variable2")
}
```


Kotlin
Kotlin Playground is an online sandbox to explore Kotlin programming language. Browse code samples directly in the browser
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```
fun main(a: Array<String>) {
var variable1 = 10
var variable2 = 20

println("Before swapping:")
println("First variable has: $variable1")
println("Second variable has: $variable2")

variable1 = variable1 + variable2
variable2 = variable1 - variable2
variable1 = variable1 - variable2

println("After swapping:")
println("First variable contains: $variable1")
println("Second variable contains: $variable2")
}
```

```
Before swapping:
First variable has: 10
Second variable has: 20
After swapping:
First variable contains: 20
Second variable contains: 10
```

47. What is Any, Unit, and Nothing?

In Kotlin, any is a data type that represents basic types like integer, floats, and strings. Any type can not hold any null values by default and implements automatic casting of lower types. This is similar to the Java object *java.Lang.Object*.

The unit type is a type that is returned by function calls that don't return anything. Kotlin doesn't offer void functions like C or Java do and utilizes *unit* for this purpose. You can think of *unit* as nothing but one specific instance.

The nothing type is returned by Kotlin functions when they can't reach the bottom of the function. It usually happens due to infinite loops or recursions.

48. Write a Kotlin Program for Calculating the Power of a Number

Many programming logic uses the power of a number for achieving its end goal. Thankfully, calculating the power of a given number is effortless in Kotlin. The below program demonstrates a simple program for this purpose. It is based on recursion.

```
fun main(args: Array<String>) {
print("Enter the base:")
val base = readLine()!!.toInt()
print("Enter the power:")
val power = readLine()!!.toInt()
val result = powerRaised(base, power)
println("$base^$power = $result")
}
```

```
fun powerRaised(base: Int, power: Int): Int {
if (power != 0)
return base * powerRaised(base, power - 1)
else
return 1
}
```

49. How do You Create Static Methods in Kotlin?

Static methods are useful for a number of reasons. They allow programmers to prevent the copying of methods and allow working with them without creating an object first. Kotlin doesn't feature the widely used static keyword found in Java. Rather, you'll need to create a companion object. Below, we're comparing the creation of static methods in both Java and Kotlin. Hopefully, they will help you understand them better.

```
class A {
public static int returnMe() { return 5; } // Java
}

class A {
companion object {
fun a() : Int = 5 // Kotlin
}
}
```

50. How to Create Arrays of Different Types in Kotlin

Kotlin allows programmers to easily create different types of arrays using the *arrayOf()* method. Below, we'll take a look at how to create arrays containing integer, floats, and strings using this simple but robust procedure.

```
val arr1 = arrayOf(1, 2, 3)
val arr2 = arrayOf(1.2, 2.3, 3.4)
val arr3 = arrayOf("Hello", "String", "Array)
```

Ending Thoughts

Kotlin interview questions may reflect a lot of topics including basic programming constructs and real-life problem-solving. Although it's impossible to encapsulate all questions for high computer science jobs that require Kotlin in a single guide, our editors have tried their best to outline the essentials. We encourage you to try out the various programming examples demonstrated in this guide to have a better grasp on Kotlin. Additionally, you should try to understand the basics as much as possible. By the end of this guide, you should possess considerable knowledge of Kotlin. If you have any questions, please leave them in our comment section.