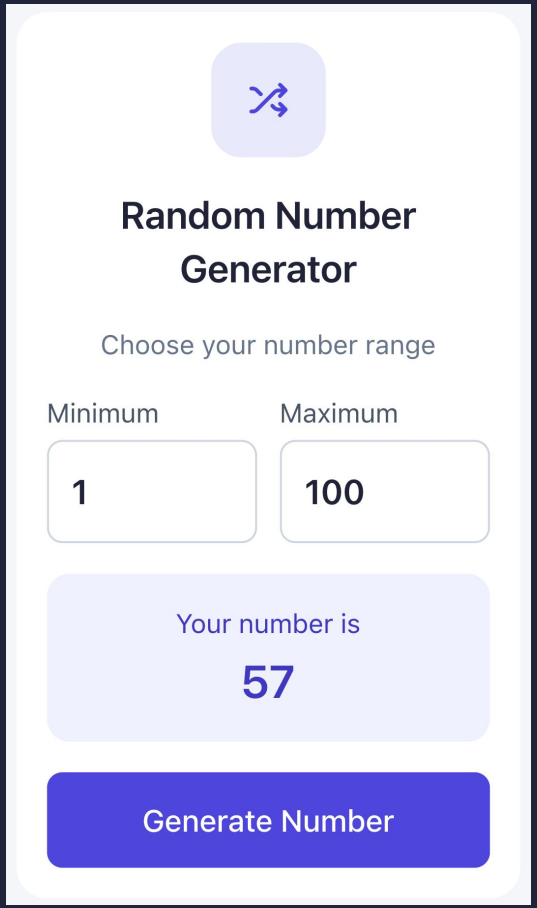
BUILD YOUR FIRST ANDROID APP

Random Number Generator

A beginner project using Kotlin and XML

ONE SCREEN. ONE BUTTON. ONE APP.

Mohammad Imran Khan Mewati
National Awardee Teacher | Fulbright DAI Scholar
Sanskrit Education Department, Rajasthan



Today’s mission

Build an app that chooses a random number from a range you enter.

01

DESIGN

Create the screen with two inputs, a result and a button.

02

CODE

Use Kotlin to generate a random integer.

03

TEST

Try different ranges and fix invalid inputs.

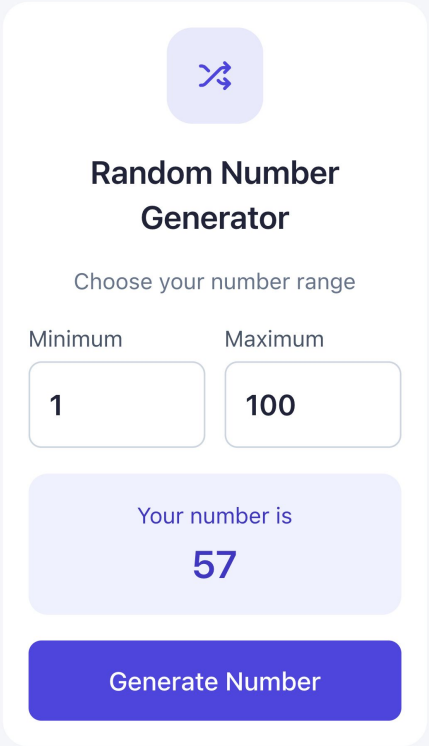
Goal: finish with a working Android app.

Design inspiration

We will use your reference image as the visual guide for our app.

Design features to copy

- Clean, single-screen layout
- Large, readable title
- Minimum and maximum fields
- Prominent result display
- One clear action button



1. Create the project

Open Android Studio and select New Project

Choose Empty Views Activity

App name: Random Number Generator

Language: Kotlin

Use XML Views and wait for Gradle sync

Remember

XML = how it looks

Kotlin = what it does

2. Build the screen

Add these components in activity_main.xml

TextView	App title
EditText	Minimum number
EditText	Maximum number
TextView	Result display
Button	Generate Number

Give each view an ID

```
minInput
maxInput
resultText
generateButton
```

3. Plan the logic

1. Tap Generate Number
2. Read minimum and maximum
3. Check that the inputs are valid
4. Generate a random integer
5. Display the result

KEY IDEA

A button click starts an event.

4. Generate a random number

Kotlin example

```
val number = Random.nextLong(
    min.toLong(),
    max.toLong() + 1
).toInt()
```

Why add 1?

The upper bound is exclusive. Adding 1 lets the maximum value be generated too.

Example: 1 to 6 **Possible results: 1, 2, 3, 4, 5, 6**

Show it on screen: resultText.text = number.toString()

5. Test like a developer

1 to 100	Result should be between 1 and 100
1 to 6	Simulates a dice
10 to 10	Result should always be 10
20 to 5	Show an error message
Blank fields	Ask the user to enter both numbers

Good apps handle mistakes politely.

Your challenge

LEVEL 1 Change the default range to 1–10.

LEVEL 2 Make a dice generator: 1–6.

LEVEL 3 Change the result font size or colour.

LEVEL 4 Add a Reset button.

LEVEL 5 Explain how invalid input is handled.

You built your first Android app!

Today you learned to:

- Design a screen with XML
- Respond to button clicks with Kotlin
- Generate a random integer
- Validate input and test the app

NEXT STEP

Personalize your app and show it to a friend.

Every app begins with one idea.