**Main Activity Code:**

package com.example.chatapp

import android.os.Bundle import android.text.Editable import android.text.TextWatcher import android.widget.EditText import android.widget.ImageView import android.widget.LinearLayout import androidx.appcompat.app.AppCompatActivity import androidx.recyclerview.widget.LinearLayoutManager import androidx.recyclerview.widget.RecyclerView import com.google.android.material.floatingactionbutton.FloatingActionButton

class MainActivity : AppCompatActivity() {

private lateinit var recyclerView: RecyclerView private lateinit var messageInput: EditText private lateinit var sendButton: FloatingActionButton private lateinit var chatAdapter: ChatAdapter private val chatMessages = mutableListOf<ChatMessage>()

override fun onCreate(savedInstanceState: Bundle?) { super.onCreate(savedInstanceState) setContentView(R.layout.activity\_main)

// Initialize views recyclerView = findViewById(R.id.recyclerView) messageInput = findViewById(R.id.messageInput) sendButton = findViewById(R.id.sendButton)

// Set up RecyclerView recyclerView.layoutManager = LinearLayoutManager(this) chatAdapter = ChatAdapter(chatMessages) recyclerView.adapter = chatAdapter

// Add text change listener to message input messageInput.addTextChangedListener(object : TextWatcher { override fun afterTextChanged(s: Editable?) {}

override fun beforeTextChanged(s: CharSequence?, start: Int, count: Int, after: Int) {}

override fun onTextChanged(s: CharSequence?, start: Int, before: Int, count: Int) { sendButton.isEnabled = s?.isNotEmpty() == true

}

})

// Send message on button click sendButton.setOnClickListener { val messageText = messageInput.text.toString() if (messageText.isNotBlank()) { sendMessage(messageText)

}

}

}

// Function to send a message private fun sendMessage(messageText: String) {

// Create a new message object val message = ChatMessage(messageText, System.currentTimeMillis()) chatMessages.add(message) chatAdapter.notifyItemInserted(chatMessages.size recyclerView.scrollToPosition(chatMessages.size - 1)

// Clear input field messageInput.text.clear()

}

}

**Main Activity.xml:**

<?xml version="1.0" encoding="utf-8"?>

<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android" xmlns:app="http://schemas.android.com/apk/res-auto" xmlns:tools="http://schemas.android.com/tools" android:layout\_width="match\_parent" android:layout\_height="match\_parent" tools:context=".MainActivity">

<androidx.recyclerview.widget.RecyclerView android:id="@+id/recyclerView" android:layout\_width="0dp" android:layout\_height="0dp" app:layout\_constraintBottom\_toTopOf="@+id/messageInput" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" />

<EditText android:id="@+id/messageInput" android:layout\_width="0dp" android:layout\_height="wrap\_content" android:hint="Type a message" android:layout\_margin="16dp" app:layout\_constraintBottom\_toTopOf="@+id/sendButton" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toBottomOf="@+id/recyclerView"/>

<com.google.android.material.floatingactionbutton.FloatingActionButton android:id="@+id/sendButton" android:layout\_width="56dp" android:layout\_height="56dp" android:src="@drawable/ic\_send" android:tint="@android:color/white" android:layout\_margin="16dp" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

**Message.xml**

<?xml version="1.0" encoding="utf-8"?>

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:orientation="vertical" android:padding="10dp">

<TextView android:id="@+id/messageText" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:textSize="16sp" android:textColor="@android:color/black"/>

<TextView android:id="@+id/timestampText" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:textSize="12sp" android:textColor="@android:color/darker\_gray"/>

</LinearLayout>