Listing Praktikum Pemrograman Berorientasi Mobile Pertemuan 11

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| **Code DAO.kt** |
| @Dao **interface** NoteDao {   @Insert  **fun** insert(note: Note)   @Update  **fun** update(note: Note)   @Delete  **fun** delete(note: Note)   @Query(**"DELETE FROM note\_table"**)  **fun** deleteAllNotes()   @Query(**"SELECT \* FROM note\_table ORDER BY priority DESC"**)  **fun** getAllNotes(): LiveData<List<Note>>  } |

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| **Code Note** |
| **package** com.najibun.nim175410171.pertemuan11.catatan  **import** androidx.room.Entity **import** androidx.room.PrimaryKey  @Entity(tableName = **"note\_table"**) **data class** Note(  **var title**: String,  **var description**: String,  **var priority**: Int ) {  @PrimaryKey(autoGenerate = **true**)  **var id**: Int = 0 } |

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| **Code NoteDatabase** |
| **package** com.najibun.nim175410171.pertemuan11.catatan  **import** android.content.Context **import** android.os.AsyncTask **import** androidx.room.Database **import** androidx.room.Room **import** androidx.room.RoomDatabase **import** androidx.sqlite.db.SupportSQLiteDatabase  @Database(entities = [Note::**class**], version = 1) **abstract class** NoteDatabase : RoomDatabase() {   **abstract fun** noteDao(): NoteDao   **companion object** {  **private var instance**: NoteDatabase? = **null   fun** getInstance(context: Context): NoteDatabase? {  **if** (**instance** == **null**) {  *synchronized*(NoteDatabase::**class**) **{  instance** = Room.databaseBuilder(  context.*applicationContext*,  NoteDatabase::**class**.*java*, **"note\_database"** )  .fallbackToDestructiveMigration()  .addCallback(**roomCallback**)  .build()  **}** }  **return instance** }   **fun** destroyInstance() {  **instance** = **null** }   **private val roomCallback** = **object** : RoomDatabase.Callback() {  **override fun** onCreate(db: SupportSQLiteDatabase) {  **super**.onCreate(db)  PopulateDbAsyncTask(**instance**)  .execute()  }  }  }   **class** PopulateDbAsyncTask(db: NoteDatabase?) : AsyncTask<Unit, Unit, Unit>() {  **private val noteDao** = db?.noteDao()   **override fun** doInBackground(**vararg** p0: Unit?) {  **noteDao**?.insert(Note(**"Coba 1"**, **"Deskripsi 1"**, 1))  }  } } |

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| **Code NoteRepositry** |
| **package** com.najibun.nim175410171.pertemuan11.catatan  **import** android.app.Application **import** android.os.AsyncTask **import** androidx.lifecycle.LiveData  **class** NoteRepository(application: Application) {   **private var noteDao**: NoteDao   **private var allNotes**: LiveData<List<Note>>   **init** {  **val** database: NoteDatabase = NoteDatabase.getInstance(  application.*applicationContext* )!!  **noteDao** = database.noteDao()  **allNotes** = **noteDao**.getAllNotes()  }   **fun** insert(note: Note) {  **val** insertNoteAsyncTask = InsertNoteAsyncTask(**noteDao**).execute(note)  }   **fun** update(note: Note) {  **val** updateNoteAsyncTask = UpdateNoteAsyncTask(**noteDao**).execute(note)  }   **fun** delete(note: Note) {  **val** deleteNoteAsyncTask = DeleteNoteAsyncTask(**noteDao**).execute(note)  }   **fun** deleteAllNotes() {  **val** deleteAllNotesAsyncTask = DeleteAllNotesAsyncTask(  **noteDao** ).execute()  }   **fun** getAllNotes(): LiveData<List<Note>> {  **return allNotes** }   **companion object** {  **private class** InsertNoteAsyncTask(noteDao: NoteDao) : AsyncTask<Note, Unit, Unit>() {  **val noteDao** = noteDao   **override fun** doInBackground(**vararg** p0: Note?) {  **noteDao**.insert(p0[0]!!)  }  }   **private class** UpdateNoteAsyncTask(noteDao: NoteDao) : AsyncTask<Note, Unit, Unit>() {  **val noteDao** = noteDao   **override fun** doInBackground(**vararg** p0: Note?) {  **noteDao**.update(p0[0]!!)  }  }   **private class** DeleteNoteAsyncTask(noteDao: NoteDao) : AsyncTask<Note, Unit, Unit>() {  **val noteDao** = noteDao   **override fun** doInBackground(**vararg** p0: Note?) {  **noteDao**.delete(p0[0]!!)  }  }   **private class** DeleteAllNotesAsyncTask(noteDao: NoteDao) : AsyncTask<Unit, Unit, Unit>() {  **val noteDao** = noteDao   **override fun** doInBackground(**vararg** p0: Unit?) {  **noteDao**.deleteAllNotes()  }  }  } } |

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| **Code AddEditNoteActivity** |
| **package** com.najibun.nim175410171.pertemuan11  **import** android.app.Activity **import** android.content.Intent **import** android.os.Bundle **import** android.view.Menu **import** android.view.MenuItem **import** android.widget.Toast **import** androidx.appcompat.app.AppCompatActivity **import** kotlinx.android.synthetic.main.activity\_add\_note.\*  **class** AddEditNoteActivity : AppCompatActivity() {  **companion object** {  **const val EXTRA\_ID** = **"com.piusanggoro.notesapp.EXTRA\_ID"  const val EXTRA\_JUDUL** = **"com.piusanggoro.notesapp.EXTRA\_JUDUL"  const val EXTRA\_DESKRIPSI** = **"com.piusanggoro.notesapp.EXTRA\_DESKRIPSI"  const val EXTRA\_PRIORITAS** = **"com.piusanggoro.notesapp.EXTRA\_PRIORITAS"** }   **override fun** onCreate(savedInstanceState: Bundle?) {  **super**.onCreate(savedInstanceState)  setContentView(R.layout.*activity\_add\_note*)   number\_picker\_priority.*minValue* = 1  number\_picker\_priority.*maxValue* = 5   *supportActionBar*?.setHomeAsUpIndicator(R.drawable.*ic\_cancel\_black\_24dp*)   **if** (*intent*.hasExtra(**EXTRA\_ID**)) {  *title* = **"Edit Catatan"** edit\_text\_title.setText(*intent*.getStringExtra(**EXTRA\_JUDUL**))  edit\_text\_description.setText(*intent*.getStringExtra(**EXTRA\_DESKRIPSI**))  number\_picker\_priority.*value* = *intent*.getIntExtra(**EXTRA\_PRIORITAS**, 1)  } **else** {  *title* = **"Tambah Catatan"** }  }   **override fun** onCreateOptionsMenu(menu: Menu?): Boolean {  *menuInflater*.inflate(R.menu.*add\_note\_menu*, menu)  **return true** }   **override fun** onOptionsItemSelected(item: MenuItem?): Boolean {  **return when** (item?.*itemId*) {  R.id.*save\_note* -> {  saveNote()  **true** }  **else** -> **super**.onOptionsItemSelected(item)  }  }   **private fun** saveNote() {  **if** (edit\_text\_title.*text*.toString().*trim*().*isBlank*() || edit\_text\_description.*text*.toString().*trim*().*isBlank*()) {  Toast.makeText(**this**, **"Catatan kosong!"**, Toast.*LENGTH\_SHORT*).show()  **return** }   **val** data = Intent().*apply* **{** putExtra(**EXTRA\_JUDUL**, edit\_text\_title.*text*.toString())  putExtra(**EXTRA\_DESKRIPSI**, edit\_text\_description.*text*.toString())  putExtra(**EXTRA\_PRIORITAS**, number\_picker\_priority.*value*)  **if** (*intent*.getIntExtra(**EXTRA\_ID**, -1) != -1) {  putExtra(**EXTRA\_ID**, *intent*.getIntExtra(**EXTRA\_ID**, -1))  }  **}** setResult(Activity.*RESULT\_OK*, data)  finish()  } } |

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| **Code Mainactivity** |
| **package** com.najibun.nim175410171.pertemuan11  **import** android.app.Activity **import** android.content.Intent **import** androidx.appcompat.app.AppCompatActivity **import** android.os.Bundle **import** android.view.Menu **import** android.view.MenuItem **import** android.widget.Toast **import** androidx.lifecycle.Observer **import** androidx.lifecycle.ViewModelProviders **import** androidx.recyclerview.widget.ItemTouchHelper **import** androidx.recyclerview.widget.LinearLayoutManager **import** androidx.recyclerview.widget.RecyclerView **import** com.najibun.nim175410171.pertemuan11.catatan.Note **import** kotlinx.android.synthetic.main.activity\_main.\*  **class** MainActivity : AppCompatActivity() {   **companion object** {  **const val ADD\_NOTE\_REQUEST** = 1  **const val EDIT\_NOTE\_REQUEST** = 2  }   **private lateinit var noteViewModel**: NoteViewModel   **override fun** onCreate(savedInstanceState: Bundle?) {  **super**.onCreate(savedInstanceState)  setContentView(R.layout.*activity\_main*)   buttonAddNote.setOnClickListener **{** startActivityForResult(  Intent(**this**, AddEditNoteActivity::**class**.*java*),  **ADD\_NOTE\_REQUEST** )  **}** recycler\_view.*layoutManager* = LinearLayoutManager(**this**)  recycler\_view.setHasFixedSize(**true**)   **val** adapter = NoteAdapter()  recycler\_view.*adapter* = adapter   **noteViewModel** = ViewModelProviders.of(**this**).get(NoteViewModel::**class**.*java*)  **noteViewModel**.getAllNotes().observe(**this**, *Observer*<List<Note>> **{** adapter.submitList(**it**)  **}**)   ItemTouchHelper(**object** :  ItemTouchHelper.SimpleCallback(0, ItemTouchHelper.*LEFT*.or(ItemTouchHelper.*RIGHT*)) {  **override fun** onMove(  recyclerView: RecyclerView,  viewHolder: RecyclerView.ViewHolder,  target: RecyclerView.ViewHolder  ): Boolean {  **return false** }   **override fun** onSwiped(viewHolder: RecyclerView.ViewHolder, direction: Int) {  **noteViewModel**.delete(adapter.getNoteAt(viewHolder.*adapterPosition*))  Toast.makeText(*baseContext*, **"Catatan dihapus!"**, Toast.*LENGTH\_SHORT*).show()  }  }  ).attachToRecyclerView(recycler\_view)   adapter.setOnItemClickListener(**object** : NoteAdapter.OnItemClickListener {  **override fun** onItemClick(note: Note) {  **val** intent = Intent(*baseContext*, AddEditNoteActivity::**class**.*java*)  intent.putExtra(AddEditNoteActivity.**EXTRA\_ID**, note.**id**)  intent.putExtra(AddEditNoteActivity.**EXTRA\_JUDUL**, note.**title**)  intent.putExtra(AddEditNoteActivity.**EXTRA\_DESKRIPSI**, note.**description**)  intent.putExtra(AddEditNoteActivity.**EXTRA\_PRIORITAS**, note.**priority**)   startActivityForResult(intent, **EDIT\_NOTE\_REQUEST**)  }  })  }   **override fun** onCreateOptionsMenu(menu: Menu?): Boolean {  *menuInflater*.inflate(R.menu.*main\_menu*, menu)  **return true** }   **override fun** onOptionsItemSelected(item: MenuItem?): Boolean {  **return when** (item?.*itemId*) {  R.id.*delete\_all\_notes* -> {  **noteViewModel**.deleteAllNotes()  Toast.makeText(**this**, **"Semua sudah dihapus!"**, Toast.*LENGTH\_SHORT*).show()  **true** }  **else** -> {  **super**.onOptionsItemSelected(item)  }  }  }   **override fun** onActivityResult(requestCode: Int, resultCode: Int, data: Intent?) {  **super**.onActivityResult(requestCode, resultCode, data)   **if** (requestCode == **ADD\_NOTE\_REQUEST** && resultCode == Activity.*RESULT\_OK*) {  **val** newNote = Note(  data!!.getStringExtra(AddEditNoteActivity.**EXTRA\_JUDUL**),  data.getStringExtra(AddEditNoteActivity.**EXTRA\_DESKRIPSI**),  data.getIntExtra(AddEditNoteActivity.**EXTRA\_PRIORITAS**, 1)  )  **noteViewModel**.insert(newNote)  Toast.makeText(**this**, **"Catatan disimpan!"**, Toast.*LENGTH\_SHORT*).show()  } **else if** (requestCode == **EDIT\_NOTE\_REQUEST** && resultCode == Activity.*RESULT\_OK*) {  **val** id = data?.getIntExtra(AddEditNoteActivity.**EXTRA\_ID**, -1)   **if** (id == -1) {  Toast.makeText(**this**, **"Pembaharuan gagal!"**, Toast.*LENGTH\_SHORT*).show()  }   **val** updateNote = Note(  data!!.getStringExtra(AddEditNoteActivity.**EXTRA\_JUDUL**),  data.getStringExtra(AddEditNoteActivity.**EXTRA\_DESKRIPSI**),  data.getIntExtra(AddEditNoteActivity.**EXTRA\_PRIORITAS**, 1)  )  updateNote.**id** = data.getIntExtra(AddEditNoteActivity.**EXTRA\_ID**, -1)  **noteViewModel**.update(updateNote)  } **else** {  Toast.makeText(**this**, **"Catatan tidak disimpan!"**, Toast.*LENGTH\_SHORT*).show()  }  } } |

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| **Code NoteAdapter** |
| **package** com.najibun.nim175410171.pertemuan11  **import** android.view.LayoutInflater **import** android.view.View **import** android.view.ViewGroup **import** android.widget.TextView **import** androidx.recyclerview.widget.DiffUtil **import** androidx.recyclerview.widget.ListAdapter **import** androidx.recyclerview.widget.RecyclerView **import** com.najibun.nim175410171.pertemuan11.catatan.Note **import** kotlinx.android.synthetic.main.note\_item.view.\*  **class** NoteAdapter : ListAdapter<Note, NoteAdapter.NoteHolder>(**DIFF\_CALLBACK**) {   **companion object** {  **private val DIFF\_CALLBACK** = **object** : DiffUtil.ItemCallback<Note>() {  **override fun** areItemsTheSame(oldItem: Note, newItem: Note): Boolean {  **return** oldItem.**id** == newItem.**id** }   **override fun** areContentsTheSame(oldItem: Note, newItem: Note): Boolean {  **return** oldItem.**title** == newItem.**title** && oldItem.**description** == newItem.**description** && oldItem.**priority** == newItem.**priority** }  }  }   **private var listener**: OnItemClickListener? = **null   override fun** onCreateViewHolder(parent: ViewGroup, viewType: Int): NoteHolder {  **val** itemView: View = LayoutInflater.from(parent.*context*).inflate(R.layout.*note\_item*, parent, **false**)  **return** NoteHolder(itemView)  }   **override fun** onBindViewHolder(holder: NoteHolder, position: Int) {  **val** currentNote: Note = getItem(position)   holder.**textViewTitle**.*text* = currentNote.**title** holder.**textViewPriority**.*text* = currentNote.**priority**.toString()  holder.**textViewDescription**.*text* = currentNote.**description** }   **fun** getNoteAt(position: Int): Note {  **return** getItem(position)  }   **inner class** NoteHolder(itemView: View) : RecyclerView.ViewHolder(itemView) {  **init** {  itemView.setOnClickListener **{  val** position = *adapterPosition* **if** (position != RecyclerView.*NO\_POSITION*) {  **listener**?.onItemClick(getItem(position))  }  **}** }   **var textViewTitle**: TextView = itemView.text\_view\_title  **var textViewPriority**: TextView = itemView.text\_view\_priority  **var textViewDescription**: TextView = itemView.text\_view\_description  }   **interface** OnItemClickListener {  **fun** onItemClick(note: Note)  }   **fun** setOnItemClickListener(listener: OnItemClickListener) {  **this**.**listener** = listener  } } |

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| **Code NoteViewMode** |
| **package** com.najibun.nim175410171.pertemuan11  **import** android.app.Application **import** androidx.lifecycle.AndroidViewModel **import** androidx.lifecycle.LiveData **import** com.najibun.nim175410171.pertemuan11.catatan.Note **import** com.najibun.nim175410171.pertemuan11.catatan.NoteRepository  **class** NoteViewModel(application: Application) : AndroidViewModel(application) {  **private var repository**: NoteRepository =  NoteRepository(application)  **private var allNotes**: LiveData<List<Note>> = **repository**.getAllNotes()   **fun** insert(note: Note) {  **repository**.insert(note)  }   **fun** update(note: Note) {  **repository**.update(note)  }   **fun** delete(note: Note) {  **repository**.delete(note)  }   **fun** deleteAllNotes() {  **repository**.deleteAllNotes()  }   **fun** getAllNotes(): LiveData<List<Note>> {  **return allNotes** } } |

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| **Code activity\_add\_note** |
| *<?***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:orientation="vertical"  android:layout\_width="match\_parent"  android:layout\_height="match\_parent"  android:padding="16dp"**>   <**EditText  android:id="@+id/edit\_text\_title"  android:layout\_width="0dp"  android:layout\_height="wrap\_content"  android:layout\_marginTop="8dp"  android:hint="Judul"  android:inputType="text"  app:layout\_constraintEnd\_toEndOf="parent"  app:layout\_constraintStart\_toStartOf="parent"  app:layout\_constraintTop\_toTopOf="parent"** />   <**EditText  android:id="@+id/edit\_text\_description"  android:layout\_width="0dp"  android:layout\_height="wrap\_content"  android:layout\_marginTop="16dp"  android:hint="Deskripsi"  android:inputType="textMultiLine"  app:layout\_constraintEnd\_toEndOf="parent"  app:layout\_constraintStart\_toStartOf="parent"  app:layout\_constraintTop\_toBottomOf="@+id/edit\_text\_title"** />   <**TextView  android:id="@+id/textView"  android:layout\_width="wrap\_content"  android:layout\_height="wrap\_content"  android:text="Prioritas:"  android:textAppearance="@android:style/TextAppearance.Medium"  app:layout\_constraintBottom\_toBottomOf="@+id/number\_picker\_priority"  app:layout\_constraintStart\_toStartOf="parent"  app:layout\_constraintTop\_toTopOf="@+id/number\_picker\_priority"** />   <**NumberPicker  android:id="@+id/number\_picker\_priority"  android:layout\_width="wrap\_content"  android:layout\_height="wrap\_content"  android:layout\_marginStart="24dp"  android:layout\_marginTop="8dp"  app:layout\_constraintStart\_toEndOf="@+id/textView"  app:layout\_constraintTop\_toBottomOf="@+id/edit\_text\_description"** />  </**androidx.constraintlayout.widget.ConstraintLayout**> |

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| **Code activity\_main** |
| *<?***xml version="1.0" encoding="utf-8"***?>* <**androidx.coordinatorlayout.widget.CoordinatorLayout  xmlns:android="http://schemas.android.com/apk/res/android"  xmlns:tools="http://schemas.android.com/tools"  android:orientation="vertical"  android:layout\_width="match\_parent"  android:layout\_height="match\_parent"  tools:context=".MainActivity"**>   <**androidx.recyclerview.widget.RecyclerView  android:id="@+id/recycler\_view"  android:layout\_width="match\_parent"  android:layout\_height="match\_parent"  android:background="@color/lightGray"  tools:itemCount="5"  tools:listitem="@layout/note\_item"** />   <**com.google.android.material.floatingactionbutton.FloatingActionButton  android:id="@+id/buttonAddNote"  android:layout\_width="wrap\_content"  android:layout\_height="wrap\_content"  android:src="@drawable/ic\_add\_black\_24dp"  android:layout\_marginEnd="16dp"  android:layout\_marginBottom="16dp"  android:layout\_gravity="bottom|right"**/>  </**androidx.coordinatorlayout.widget.CoordinatorLayout**> |

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| **Code note\_item** |
| <**androidx.cardview.widget.CardView  xmlns:android="http://schemas.android.com/apk/res/android"  android:orientation="vertical"  android:layout\_width="match\_parent"  android:layout\_height="wrap\_content"  android:layout\_marginEnd="8dp"  android:layout\_marginStart="8dp"  android:layout\_marginTop="8dp"**>   <**RelativeLayout  android:layout\_width="wrap\_content"  android:layout\_height="wrap\_content"  android:padding="8dp"**>   <**TextView  android:id="@+id/text\_view\_priority"  android:layout\_width="wrap\_content"  android:layout\_height="wrap\_content"  android:layout\_alignParentEnd="true"  android:text="1"  android:textAppearance="@style/TextAppearance.AppCompat.Large"  android:textColor="@color/colorAccent"  android:textSize="18sp"** />   <**TextView  android:id="@+id/text\_view\_title"  android:layout\_width="wrap\_content"  android:layout\_height="wrap\_content"  android:layout\_alignParentStart="true"  android:layout\_toStartOf="@id/text\_view\_priority"  android:ellipsize="end"  android:maxLines="1"  android:text="Judul"  android:textAppearance="@style/TextAppearance.AppCompat.Large"  android:textStyle="bold"** />   <**TextView  android:id="@+id/text\_view\_description"  android:layout\_width="wrap\_content"  android:layout\_height="wrap\_content"  android:layout\_below="@id/text\_view\_title"  android:text="Deskripsi"**/>   </**RelativeLayout**>  </**androidx.cardview.widget.CardView**> |

**Output:**





