JÖNKÖPING UNIVERSITY

School of Engineering

ANDROID RECYCLERVIEW
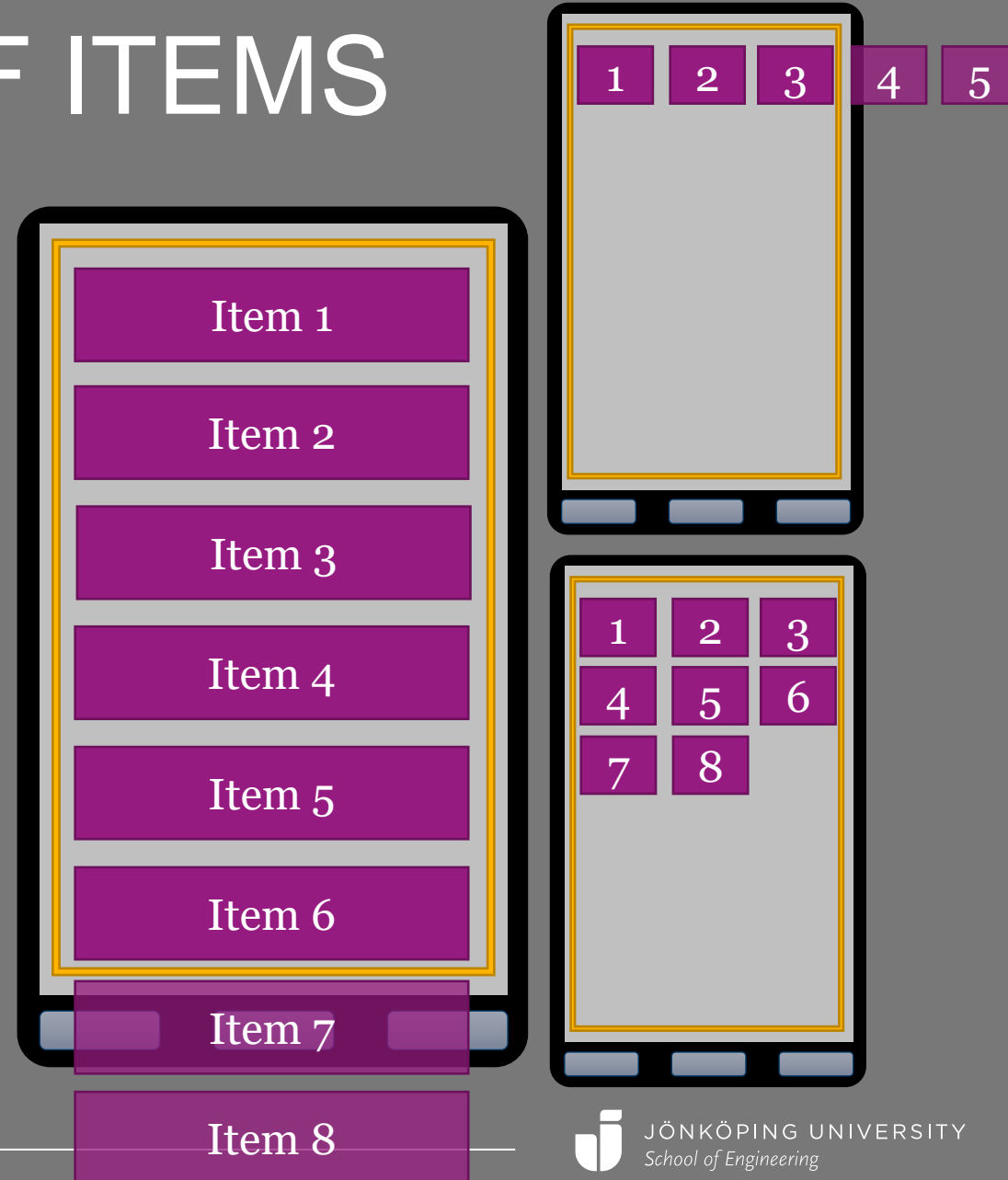
Peter Larsson-Green

Jönköping University

Spring 2021

DISPLAYING A LIST OF ITEMS

A super version of a `ListView`.

- `ListView` only vertical list.

- Enforces `ViewHolder` for better performance.

- Easier to add animations.

- Easier to integrate with other views.
  - Nested scrolling.

USING `RecyclerView`

- The class `RecyclerView` is responsible for rendering the list.

- The class `RecyclerView.Adapter` defines some methods through which the `RecyclerView` should be able to fetch the items.

- The class `RecyclerView.ViewHolder` is responsible for storing references to the views shown for a single item.

- The class `LayoutManager` is responsible for specifying how the list item views should be positioned on the screen.
    - `LinearLayoutManager` for 1-dimensionel list.
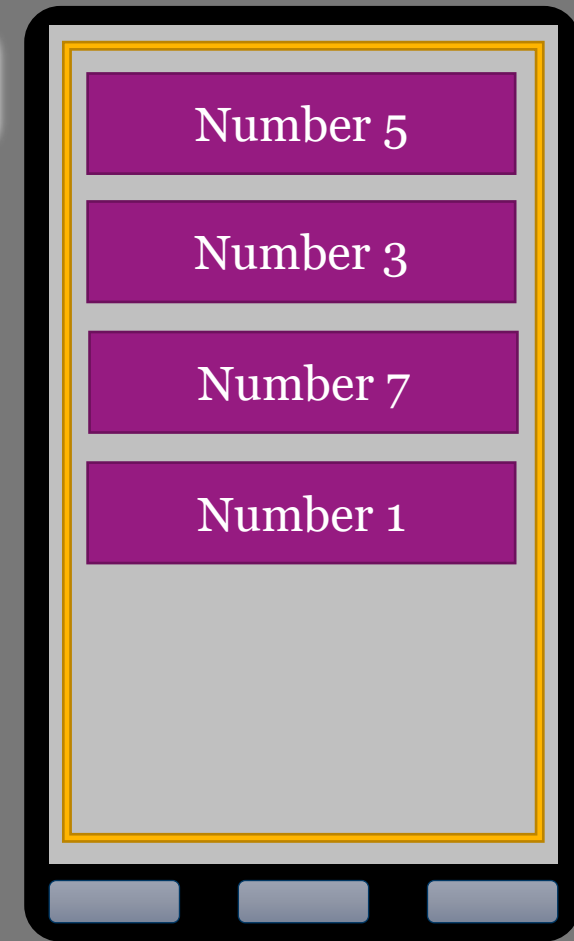   - `GridLayoutManager` for 2-dimensionel grid.

EXAMPLE

```
val numbers = listOf(5, 3, 7, 1)
```

Create the list item view.

```xml
<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:id="@+id/text_view"
/>
```
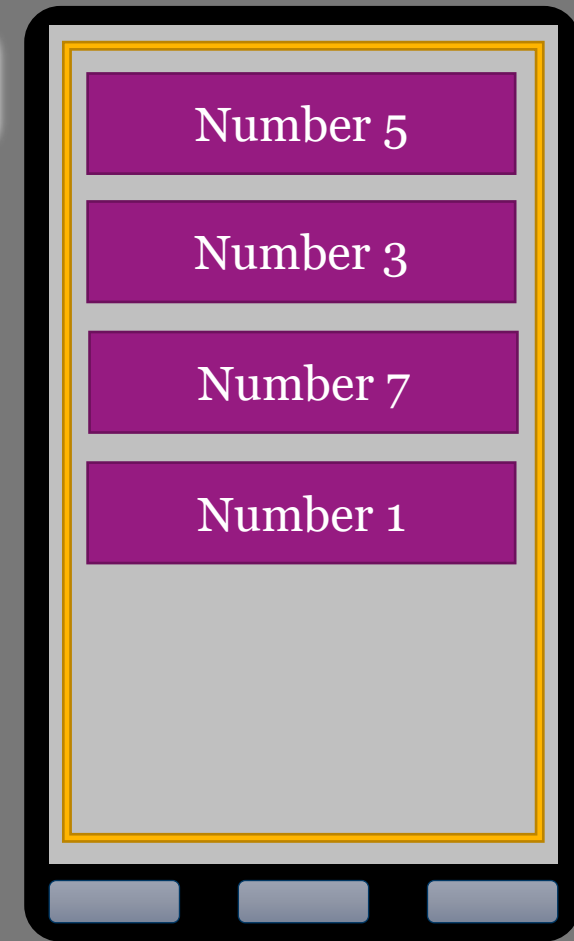
layout/list_item_number.xml

Number 5

Number 3

Number 7

Number 1

JÖNKÖPING UNIVERSITY
School of Engineering

EXAMPLE

```
val numbers = listOf(5, 3, 7, 1)
```

Create the `ViewHolder`.

```
class MyViewHolder(itemView: View) :
    RecyclerView.ViewHolder(itemView){
  val textView = itemView.findViewById<TextView>(
    R.id.text_view
  )
}
```
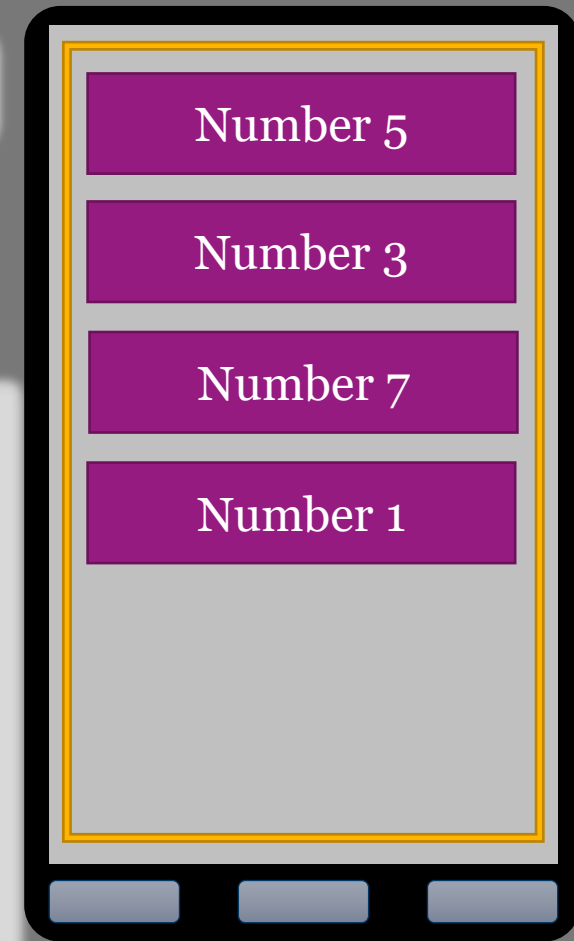
Number 5

Number 3

Number 7

Number 1

EXAMPLE

```
val numbers = listOf(5, 3, 7, 1)
```

Create the Adapter.

getItemViewType(position)

Number 5

Number 3

Number 7

Number 1

```kotlin
class MyAdapter :
    RecyclerView.Adapter<MyViewHolder>(){

    override fun onCreateViewHolder(parent: ViewGroup, viewType: Int)
      = MyViewHolder(

        LayoutInflater.from(parent.getContext())
          .inflate(R.layout.list_item_number, parent, false))

      )

    override fun onBindViewHolder(holder: MyViewHolder, position: Int) {

        val number = numbers[position]

        holder.textView.text = "Number $number"

    }

    override fun getItemCount() = numbers.size()

}
```

JÖNKÖPING UNIVERSITY
School of Engineering

EXAMPLE

```
val numbers = listOf(5, 3, 7, 1)
```

Create the `RecyclerView`.

```xml
<androidx.recyclerview.widget.RecyclerView

    android:id="@+id/recycler_view"

    android:layout_width="match_parent"

    android:layout_height="match_parent"

/>
```

layout/activity_main.xml

```kotlin
class MainActivity : AppCompatActivity() {
  override fun onCreate(savedInstanceState: Bundle?) {
    super.onCreate(savedInstanceState)
    setContentView(R.layout.activity_main)
    val recyclerView = findViewById<RecyclerView>(R.id.recycler_view)
    recyclerView.adapter = MyAdapter()
    recyclerView.layoutManager = LinearLayoutManager(this)
  }
}
```

Number 5

Number 3

Number 7

Number 1