



# CS194A



## Android Programming Workshop

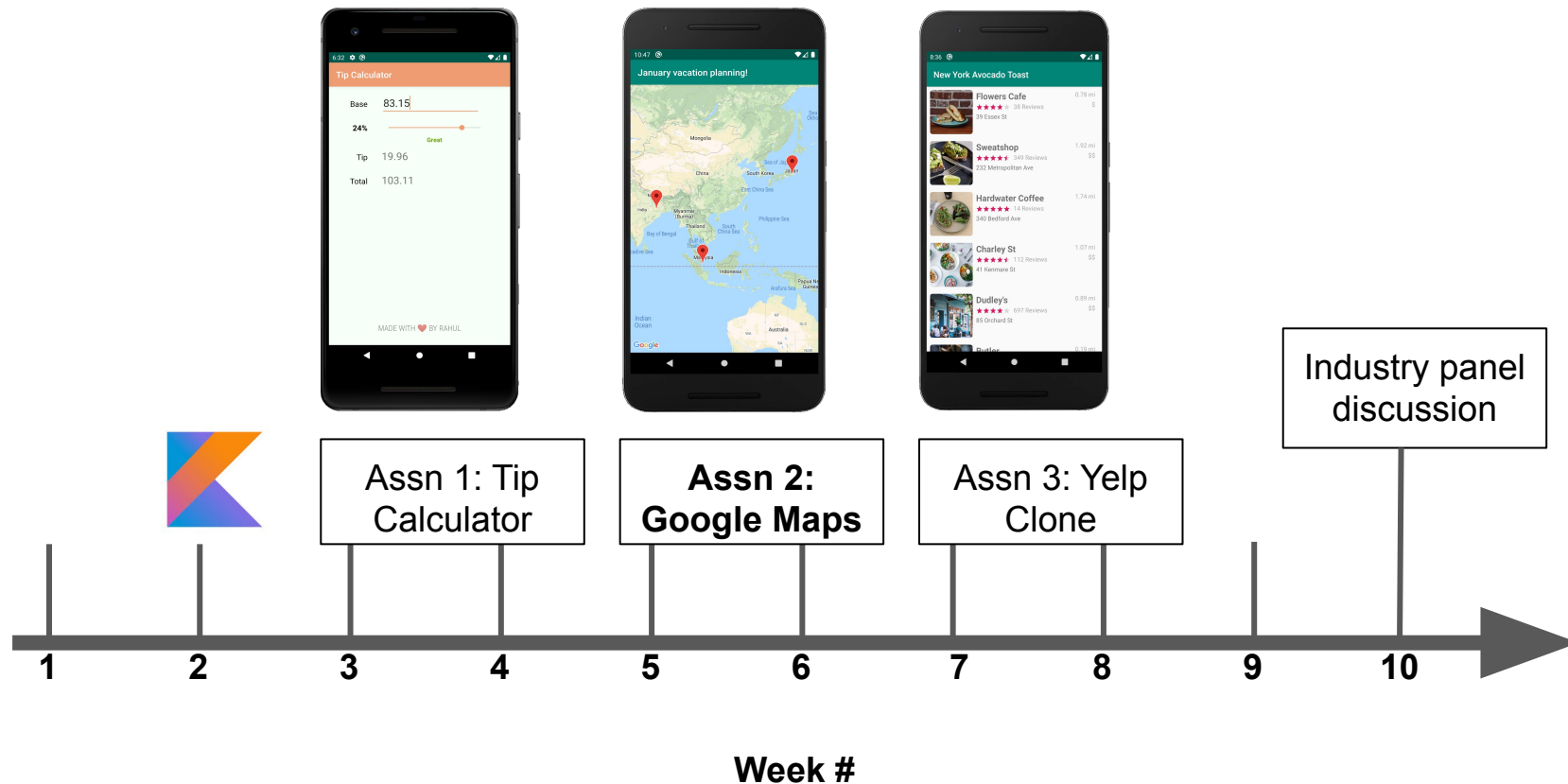
Lecture 6: October 21, 2020  
Rahul Pandey

# Outline

- Logistics
- Intents review
- Activity lifecycle
- Q&A with Nikil Viswanathan

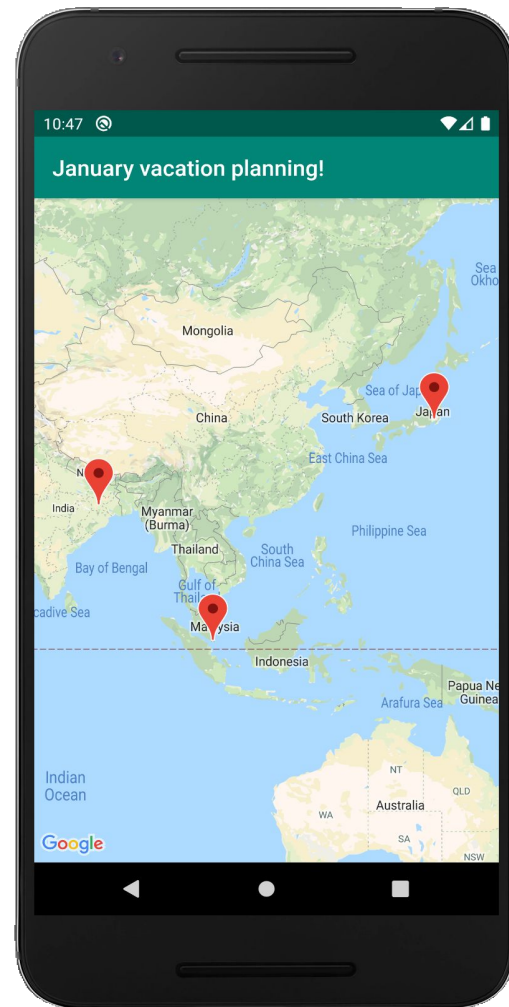
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# Assignment 2- My Maps

- RecyclerView
- Google Maps integration
- Activities and intents



# My Maps app

- Project due Sunday, **October 25, 11:59pm**
- Partner feedback due Wednesday, **October 28, 4:00pm**
- Submission through Canvas

## Mid-quarter feedback (anonymous)

- <https://forms.gle/UgEi1G2GvFMiyeh78>
- Should only take a few minutes

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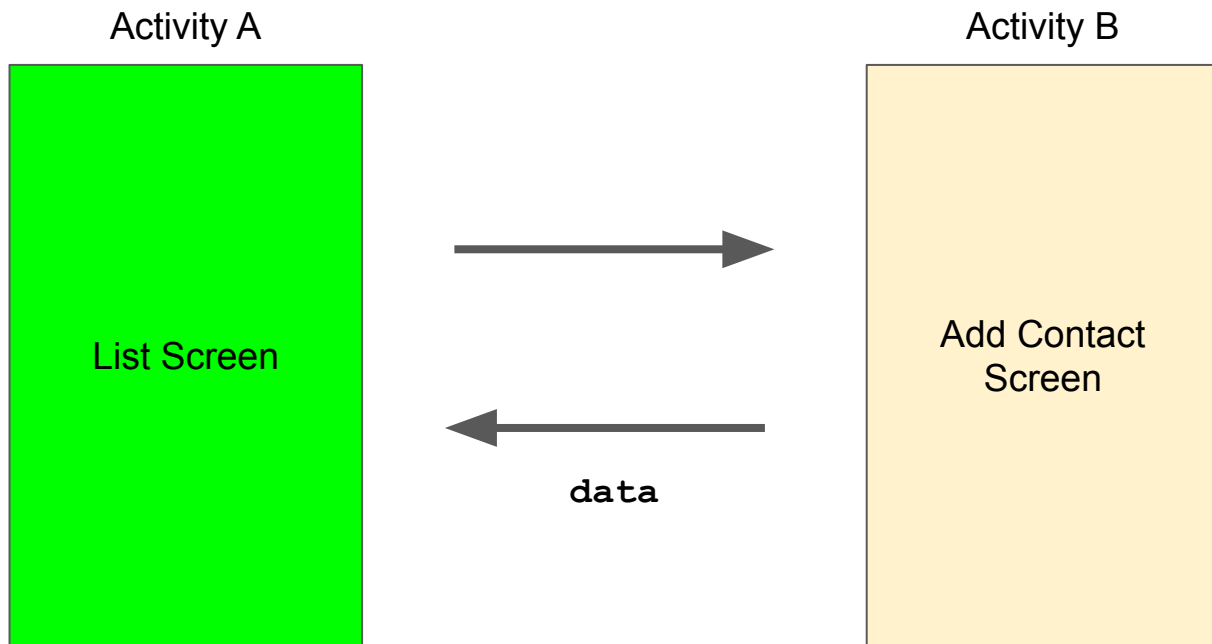


What is an intent?

# Types of Intents

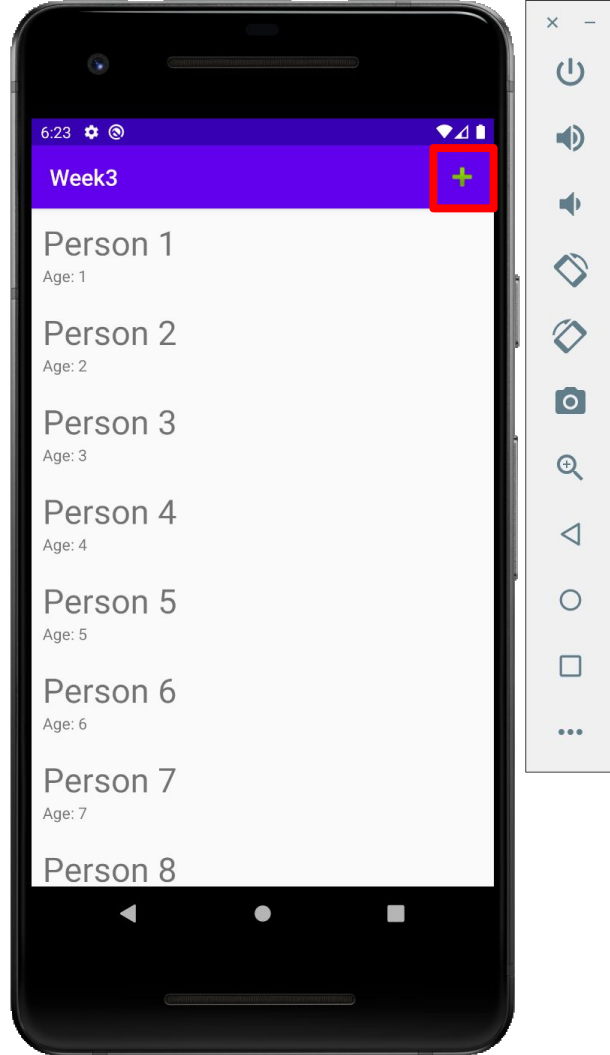
- Explicit intent: launch other activities in your app
  - `val myIntent = Intent(this, ActivityName::class.java)`
  - `startActivity(myIntent)`
- Implicit intent: request to perform an action based on a desired result
  - `val browserIntent = Intent(Intent.ACTION_VIEW, Uri.parse("url.com"))`
  - `startActivity(browserIntent)`
  - [Common implicit intents](#): start a phone call, take a picture, open the browser/maps

# Returning data to the parent



# Getting a result back from a launched activity

- Sometimes you'll want to get data from the launched activity, e.g.
  - MainActivity launched AddContactActivity: adding a contact to the list
  - Intent to take a picture
- Call `startActivityForResult` rather than `startActivity`.
  - Pass a request code along with the intent
  - Returns immediately, but the Android system will call another method...
- `onActivityResult` is called when the second activity is done
  - Second activity should call `setResult` and `finish` to communicate back



# Nullability in Kotlin

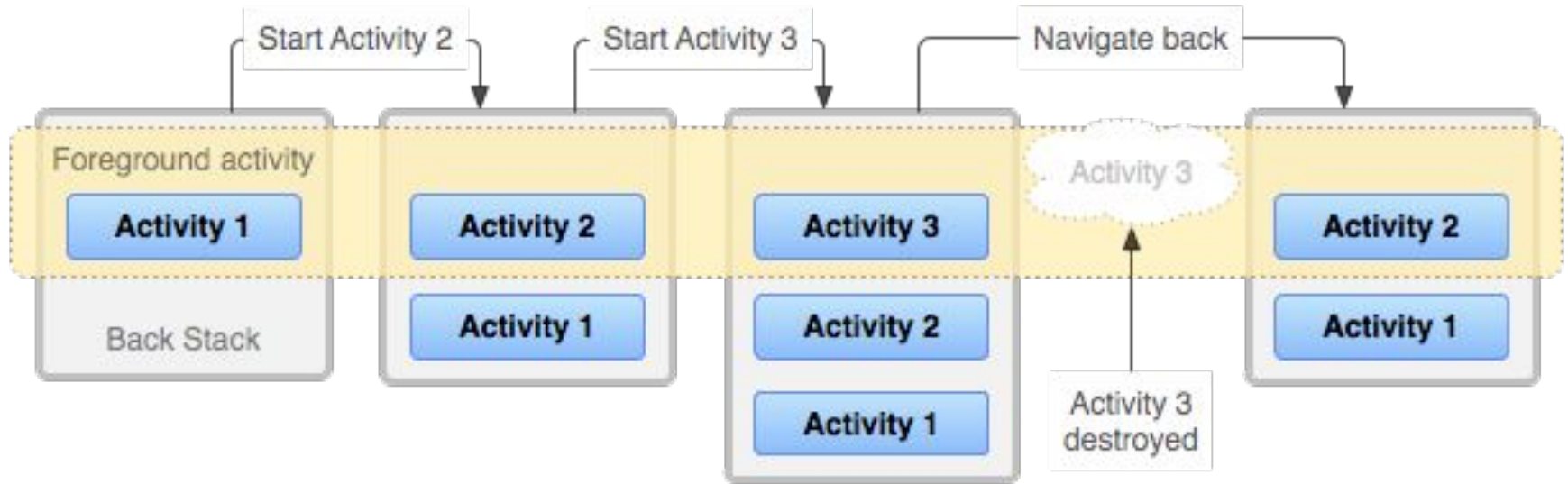
## Java

```
String name = null;
int length = name.length();    // runtime crash
if (name != null) {
    int length = name.length(); // ok
}
```

## Kotlin

```
val bad: String = null        // compiler error!
val name: String? = null      // ok
val lengthBad = name.length() // compiler error!
val length1 = name?.length() ?: 0
if (name != null) {
    val length2 = name.length()
}
```

# Activity back stack- like a stack of plates



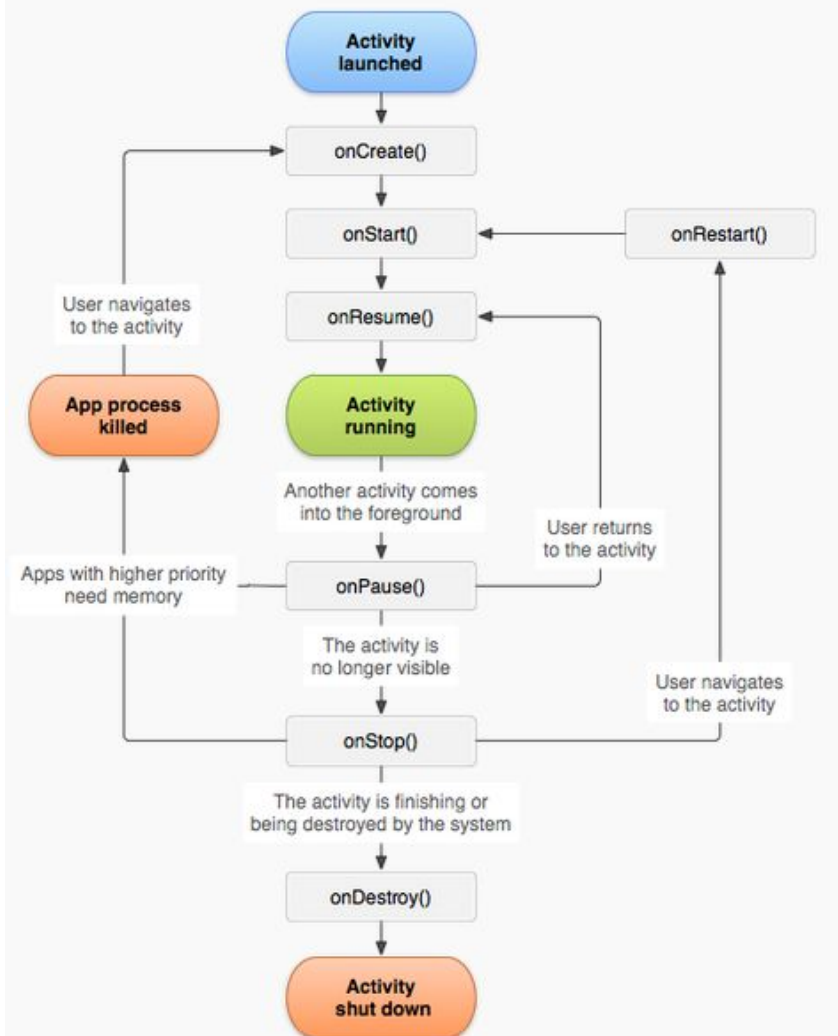
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# Activity can be in a number of states

- **States:**
  - **Resumed:** activity is in foreground
  - **Paused:** activity is partially obscured by another activity. Activity cannot receive user input or execute code
  - **Stopped:** activity is hidden/in the background. Things like member variables are maintained
  - **Destroyed:** Resources of the activity are reclaimed by the Android system. E.g. back button press
- Android system will notify you when a state transition happens



# Prep for next week

- Finish **My Maps**
- Submit peer feedback through Canvas

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# Guest speaker:

## Nikil Viswanathan

- Built Down to Lunch (iOS and Android app):
  - #1 Social App in 2016
  - iOS and Android app
- Co-founder & CEO at Alchemy
  - Blockchain development platform powering millions of users

