# Mobile Application

↳ Mobile App frontend ha

| Android | IOS |
|---|---|
| ↓ Java | ↓ object C |
| ↓ Spring | C++ |

Mobile App ⟹ frontend

Top

⟹ Google

⟹ Meta

↙ ↘ Whatsapp

Facebook

Meta

↓

React

Mobile development k lia

Meta
↓
React
↓
Mobile development k lia ho gi

⟹ API
↳ Server Side

Google
↓
Angular

Flutter:

1) Flutter Set up
2) Flutter project

⟹ Dependancy
⟹ What is API?
⟹ :Local storage?
⟹ widget?

Local Storage

ایسی کے بغیر APP بھی بنا سکتے

Example
SQL Lite

App Bar

Logo

About
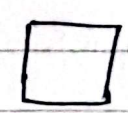
(i)

# Dependence:- ⇒ requirenments

Dependancy is a piece of code or a library that is required by the app to perform a specific tasks or set of tasks.

## Types:

Internal Dependance
External Dependance
Transitive Dependence

## Example:

**APIs** A social media app may depend on APIs from facebook or twitter to enable sharing and authentication.

(ii)

# Pubspec-yamal :

Pubspec-yamal is a file used in Flutter and Dart project to manage dependencies and project metadata.

Dependencies
Flutter
Sdk: flutter

## Format:

The pubspec.yaml file is written in YAML (YAML Aint Markup language) format, which is a human - readable serialization format.

**(iii)** (Gradle android k lia ha)

## What is gurdle and why we use it how to resolve its errors? ⇒ powerful hota ha.

Gradle is a build that help manage and automate the building, testing, and development of software project.

## use Gradle:

Manage dependencies and libraries
Automate building and testing
Improve project structure and organization.

## Gradle errors:

Dependency not found
Build failed
Gradle sync failed

## Resolve Gradle error:

## Clean and rebulid project:

Invalidate caches and restart android studio.

## Check Gradle Configuration:

Verify Gradle version and configuration.

## Update dependencies: :::

Update dependencies versions and repositories.

**(iv)**

Connector ha internel connect karta ha

## What is APIs? (Application Programming
↳ Set of protocol)   Interfaces)

APIs are sets of rules, protocols, and tools for building software application. They allow different system, services, or application to communicate with each other. enchange data, and perfome specific tasks.

## Types of APIs

Web APIs

Operating System APIs

Library APIs -

## (v)

# What is Local Storage?

Local storage is a feature that allows mobile app to store data locally on the device.

# Purpose of Local Storage?

→ Store user data
→ Cache data
→ Offline support
→ Improve performance

## Store user data:
Save user preference, settings, and credentials.

## Cache data:
Temporarily store frequently - used data for faster cred access.

## Offline Support:

Allow apps to functions without internal connectivity.

## (vi)

# What is widget?

A widget is a small, self-contained piece of code that perfome a specific function or display information on website, application or device.

## Types:

Graphical widget
Interactive widget
Functional widget.

## (vii)

# What is App Bar?

App Bar also known as Navigation or Toolbar is a graphical control element that provide navigation.