The different data storage options available on Android:

1. **Shared Preferences:** Store private primitive data in key-value pairs.

2. **Databases:** Store structured data in a private database.

(a). SQLite: Android provides full support for SQLite databases. Any database you create is accessible only by your app.
The data is not naturally accessible to other apps.

(b). Firebase: It is Google's mobile platform that provides real time database.

SharedPreferences:

1. Similar to a Map i.e. Key-Value pairs.
2. Android stores Shared Preferences setting as XML file.
3. It is application specific.

Modes:

- MODE_PRIVATE
- MODE_APPEND
- MODE_WORLD_READABLE
- MODE_WORLD_WRITABLE

Initialization:

```
SharedPreferences pref =
getApplicationContext().getSharedPreferences("MyPref",Context.MODE_P
RIVATE);

Editor editor = pref.edit();
```

Storing data:

```
editor.putString("key_name", "string value");          // Storing string
editor.putInt("key_name", "int value");                // Storing
integer

editor.commit(); // commit changes
```

Retrieving Data:

```
pref.getString("key_name", null);       // getting String

pref.getInt("key_name", -1);            // getting Integer
```

Clearing or Deleting Data:

```
editor.remove("name");                  // will delete key name

editor.remove("email");                 // will delete key email

editor.commit();                        // commit changes
```

Firebase

What is Firebase?

Firebase is a powerful platform for your mobile and web application. Firebase can power your app's backend, including data storage, user authentication, static hosting, and more. With Firebase, you can easily build mobile and web apps that scale from one user to one million.

Develop
Backend Services
Realtime Database
Authentication
Hosting
Storage
Cloud Messaging
Remote Config
App Quality Services
Test Lab for Android
Crash Reporting
Firebase
Analytics
Grow
Acquisition
Dynamic Links
Invites
AdWords
Re-Engagement
Notifications
App Indexing
Earn
In-app Ads
AdMob

Authentication

- Authentication & account management

- Supports:
  - Email & password
  - Social providers
  - Existing auth systems

- [**New!**] Out-of-the box UI

Realtime Database

- Cloud-hosted NoSQL database
- Synchronization & conflict resolution
- Access directly from your app

Storage

- Easy file storage
- Handles poor connectivity
- Backed by & accessible from Google Cloud Storage

Notifications

- Simple UI, with no coding
- Built on Cloud Messaging
- Audience targeting
- Conversion funnel insights