- OkHTTP
- Gson
- Json
- Background Processing.

Background Processing

- Main thread (Linux process)
- Handles UI
- Long tasks on main thread slow down the app, should be passed to background thread.

Examples
→ Network access   → Bitmap processing.
→ database queries

Otherwise

⚠️ | Application Not responding |

Complication:

Once done running tasks on background thread, you cannot update UI from background!
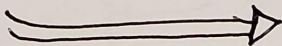
Solution:

Runnables. ⟹ Thread Safe
* What is thread safe (CSG-213)
* Ensure that only one (main thread) handles the UI changes.

Android Processes

Main thread

do some processing

Bring back
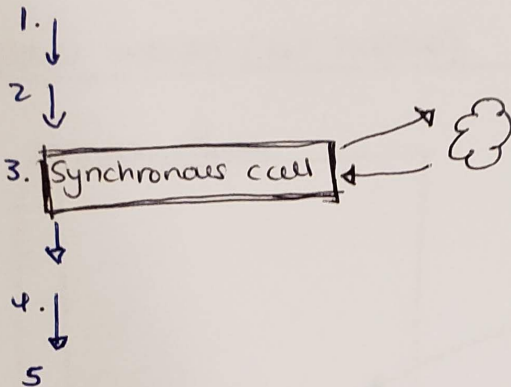updates to
main thread

Background thread
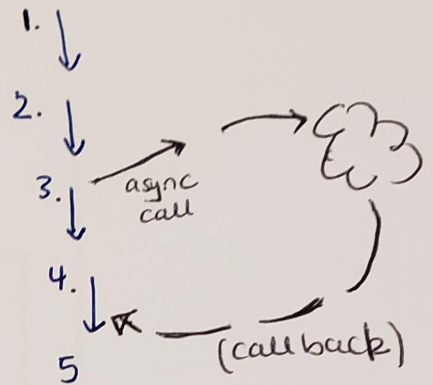
Asynchronous / synchronous
What is the difference ?

Synchronous

1. ↓
2. ↓
3. | Synchronous call | → ☁
   ← ☁
   ↓
4. ↓
5

Asynchronous

1. ↓
2. ↓
3. ↓ async call → ☁
4. ↓ ← (call back) ☁
5

Solution

↳ Async Task

→ perfom async calls
→ no need to handle threads on your own

Need 3 parameters
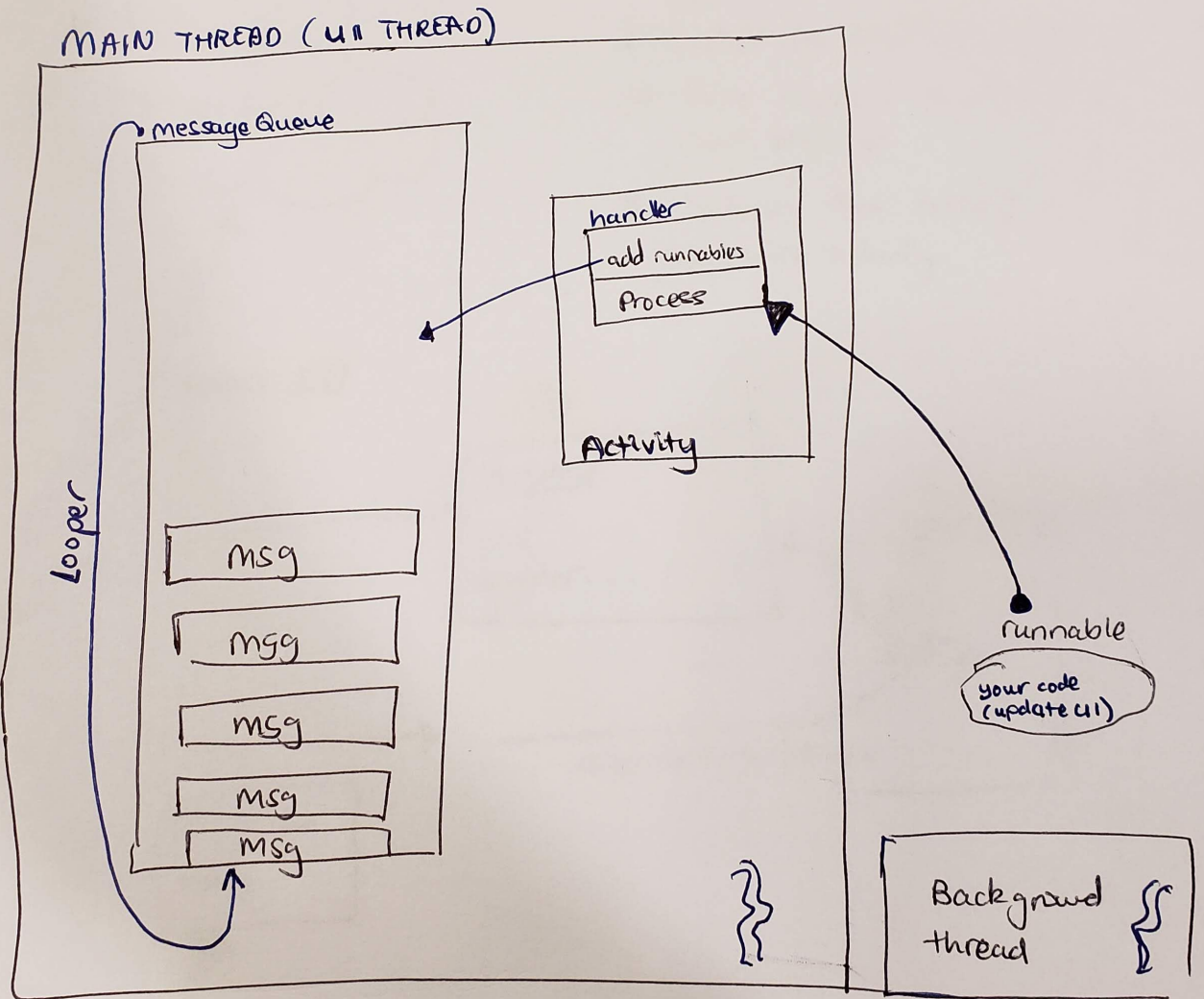→ Params
→ Progress
→ Result

methods
→ On PreExecute ()
→ do In Background ()
→ On Progress Update ()
→ OnPost Execute ().

* must be subclassed
* To mark unused type, use <void>

MAIN THREAD (UII THREAD)

Message Queue

Looper

handler
add runnables
Process

Activity

msg

mgg

msg

msg

msg

runnable

your code
(update UI)

Background
thread

OkHttp

- Http client
- Make network calls
- Third party - Square

1. Create a Request and add the relevant parameters

2. Create an OkHTTp client

(3). Pass request to client and call execute.

4. Obtain the result in Response's body.

Steps

Interwebs :)

Response

execute() [3]

① Request
url
header...
etc

your Activity

② OkHttp client

Response
body

(4)

response.body.toString().