

1. What is the difference between synchronous and asynchronous task? How did you use them in your challenge?

When a synchronous task is performed (blocking the main thread) and there is the need to execute another task, the new task has to wait until the previous task finishes its work. When the asynchronous task is performed, there is possibility to perform another task before it finishes.

In my project I used the class like `AsyncHttpClient` to perform GET method, because if the activity of loading images takes the application too long time (while it is working), a user can perform the other action without any problem because the main thread is not blocked.

2. What is the difference between a strong reference and a weak reference? Could it occur in your code? If yes, where and why?

In a strong reference while an object is indicated by a variable reference, it will not be deleted from the memory through Garbage Collector. In a weak reference if it lacks memory, Garbage Collector will remove this object even if the variable reference holds the reference to this object.

In my project, there are only strong references, because the application is so small that there is not need to use weak references.

3. Have you ever heard about design patterns? If yes, could please and explain some of them?

It is a description of the solution, not its implementation. A universal solution for frequently occurring, repetitive design problems. It shows connections and dependencies between classes and objects and facilitates creation and modification.

Structural patterns - describing the structures of related objects.

Functional patterns - describing the behavior of objects cooperating with each other.

Creative patterns - their task is to create, initialize and configure objects, classes and other data types.

4. Tell me something about your previous experiences (the good and the bad ones). Would you change anything? If yes, what and why? (max 200 chars)

The internship will be my first work experience.