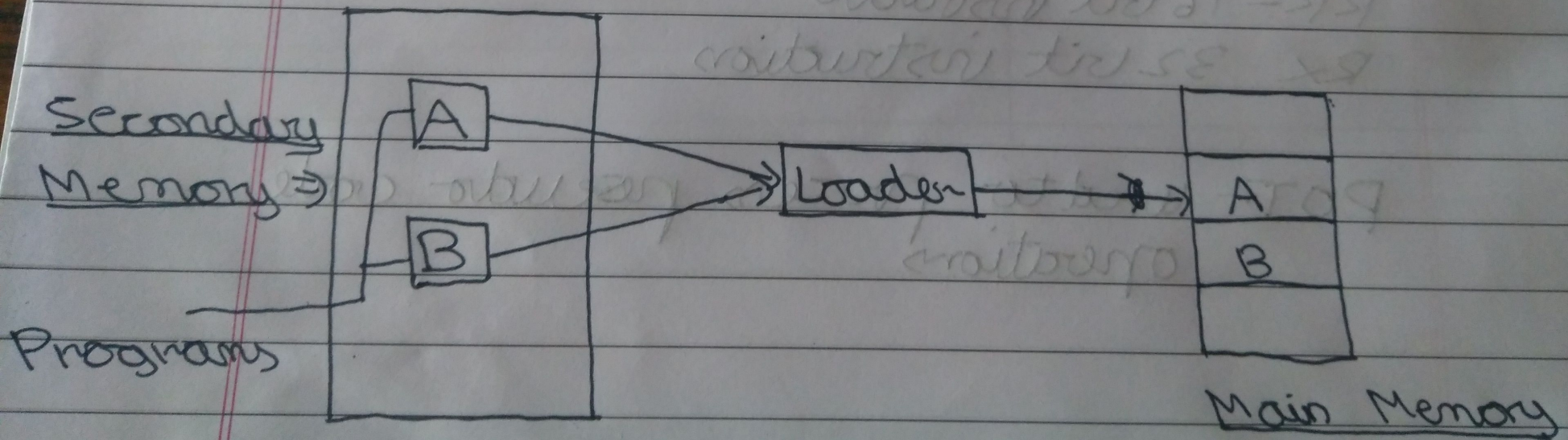Tutorial 2

Loaders

A loader is an important component of an operating system which ensures all necessary programs and libraries are loaded into the main memory. This is required when the program application is starting up.

Ex: Any desktop application like Google chrome, Android studio, Games.

Basic functions that a loader performs are allocation, linking, relocation, loading.

Secondary Memory ⇒ Programs

Loader

Main Memory

Loading involves reading the contents of executable file that contains the instructions of the program and then doing other tasks that are required in order to prepare the executable for running, the execution time varies depending on the size of the program.

Responsibilities of a loader include:
Validating the program for memory requirements, permissions.
Copy necessary files, such as program image or required libraries, from disk to memory.
Copy required command line arguments into the stack.
Link the starting point of the program and link any other required library.
Initialize the registers.
Jump to the program starting point in memory.

Conclusion: Graphics intensive games or heavy programs like Matlab software tend to take a lot of time to load due to no of libraries and files required to be loaded in the main memory.