Theory Assignment 2 Ali Hanni

COMP 346 40157164

**Question 1.**

The main goal of this separation is to provide memory protection and hardware protection. Kernel space is strictly reserved for running a privileged OS kernel operation and most device drivers. On the other hand, user space is the memory area where application software and some drivers execute. The kernel space is the one that if used without any constrain can trash the system as it has access to some privileges. For example, a kernel thread would be able to overwrite part or all of virtually anything in memory.

**Question 2.**

Threads are called lightweight processes because they roughly do the same job as a process but require way less resources, specially at creation. Threads take less time for creation, communication between threads requires less time, context switch is more efficient, threads consume overall fewer resources, threads share memory and so on. When created, threads do not require any new resource. They share resources (i.e., memory) of the process they belong to. A new process creation requires more resources like new address space.

**Question 3.**