Name: Varun Lingabathini

CECS 526 Assignment 1 (1 point)
Due: January 30, 2020 by class time, on BeachBoard

Describe in detail what the operating system needs to do in response to a user's request to run an application program, assuming paged memory allocation is used for memory management in the given system.

Whenever a user requests to execute an application, the operating system implements necessary process scheduling algorithms to execute the application. As soon as the process reaches the end of the ready queue, the Operating system implements necessary memory management techniques to store the instructions of the program into the main memory. Whenever a paging technique is used, these instructions are divided into a set of blocks called as pages and the main memory is also divided into equal size of blocks called frames. The page is tracked through an address called logical address while a frame is tracked through an address in physical memory. Now to map these pages with the frames in the memory an additional memory is used which is implemented using a data structure known as page table. All the pages in the process are mapped to the corresponding frames in the memory.

During the implementation of the paging technique, all the frames in the main memory need not be contiguous. During this process, if the current process needs more memory than main memory, then all the idle pages allocated in the main memory will be moved to the secondary storage temporarily and moves back to the main memory whenever the process completes the execution.