1.
    a.
    b. Because it can be done by hardware instead or part software and part hardware, it is more efficient and simpler to implement -- and the kernel is simpler.
    c. Address translation can take longer due to the multiple table lookups it can involve. Caches help, but there will still be cache misses.

2. Using virtual memory comes with extra overhead in terms of speed of access to the disk. In a system where real-time data and optimum speed read/write speeds are crucial, it would be ill-advised as it could lead to the loss of human lives. Onboard weather instruments and other sensors for aeroplanes.

3.
    a. #13 = 3M
    b. #1 = 4M
    c. #5 = 5M
    d. #7 = 8M

4.
    a. 649 - Legal
    b. 2310 - legal
    c. 590 - illegal
    d. 1727 - legal
    e. 2064 - illegal

5.
    a.
        i. Mobile devices have much less resources in terms of processing power and disk space available to effectively implement swapping ie the cost outweighs the benefit
        ii. Phone's count as "real-time" systems as such the overhead incurred when using swapping may slow down responsiveness. This is further exacerbated by the fact that they rely on flash storage which is significantly slower than SSD's and HDD's found in Desktops.

    b. On the android operating system, consider process A is running and the user decides to run process B. What the operating system does, instead of loading project A into a swap space, is to save/persist its state through a series of callbacks and essentially "pauses" the program by terminating it. Once process B is done running and the user "resumes" process A once more, a callback returns the parameters of the previous state, if available, which to the user seems like the app was never terminated.

Zero Credibility (24 Aug. 2009.). Why Android Swap Doesn't Make Sense. *Zero Credibility*. Retrieved from

    c. The App must have a way of allowing the operating system to monitor and save its state so that in the event of switching between apps, the user can still resume his/her previous activity

Self Evaluation

1. Yes. But not to my satisfaction and probably not to that of the marker. I'm expecting roughly 60% and that's on the generous side. While my program is good, I can't say there was vigorous testing. I left question 1 incomplete
2.
    a. Time. There was little time to work on it due to the the upcoming exams period. There was a lot of workload and I was only able to submit after the due date after requesting an extension and found out later that there was a hard deadline

    b. I missed the last few classes so I needed to spend a lot of time catching up before I could answer most questions. Then there was the decision between code and essay

3.

Date	Activities	Hours	Outcome
24/11/2017	Created essary outline and started catching up to class on memory management	1.5	Managed to complete outline and gather some information on Windows OS
29/11/2017	Had to request an extension due to intense assignment workload	0	Submission was still available past deadline so I decided to complete the work in the next 24 hours
30/11/2017	Complete all questions and essay before midnight	16	Managed to answer most questions and write something for the essay. The goal was to finish before midnight
1/12/201	Decided to write the code instead. Much simpler than an essay	6	Managed to write a fairly reliable program with the necessary documnetation