CS-307 Homework 4 Report Yarkın Eren 26523

In this homework we have 3 different ways to read a txt file. Using streams(c++ fstream), read(C) and mmap. Their times are 14.1808 s, 12.3380 s and 0.7480 s. First let's talk about read and stream. In the read method C sees the data as the one big thing and process it therefore in very big files according to the main memory it can be problematic. But It is faster than stream it does not need to acces the file all time. In stream the program sees the data as the buffers. So it does not need a big main memory for the big files. But it has to access to file many times so it's slower than the read. In mmap, the system maps the file into the main memory so the file is not read directly from the memory. After a specific location is accessed it also important to unmap it. And if we look at the time we can see that mmap is by far the fastest method. But in the large files it has to be smaller than the main memory(not the physical size with the virtual memory) otherwise it can not map it so we can not access the file.