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Project 3

Virtual Memory Emulator

For this project, the goal was to create a C program that emulates the virtual and physical memory swapping manages by the operating system. Using multiple arrays to act as a page table and physical memory, the program takes addresses loaded from the address.txt file one at a time, and converts it to a physical address. This conversion requires the frame number in physical memory (simulated by the valid_frame array in the code) and and offset value.

Some of the problems that i encountered while creating the program were figuring out how to read and file in C using the fread() and fseek() methods. These problems were solved through trial and error and by looking at the documentation of the methods to get a better. Another difficulty i experienced was trying to find a way to implement the TLB. In the end i decided to make a struct that had two arrays, one for pages and one for frames. Using a struct made handling both arrays a lot simpler. To compile the program use the following command in terminal:

```
gcc -o vmm VirtualMemoryManager.c
```

To run the program use the following command in terminal:

```
./vmm
```

to change input files, one must change the name of the files inside the code (specifically lines 172 and 173).

The output will be displayed on the terminal. Here is an example: