Project 1 Report

Approach:

In this project, I used the design outline to create 5 programs of computerSystem, SYstemBus, IO, buffer, TransferDevice. The IO interpret the inputs.txt and then transfer a short with the 8bit id and 8bit data to the transfer device through the Systembus. The transfer device checks the id and then keep track of the index for amount of data being sent as it sends the data to the buffer. If the index exceeds the size of the buffer, the transfer device switches the mode of the buffer to read and pauses the IO program. The transfer device read the data from the buffer and send it to the computer system which prints it to the screen. When the buffer is empty again and all it transfers all the 128 bytes to the computer system, the transfer device switches the mode of the buffer back to write and continues the IO program to keep sending data.

Challenges and solutions: There were a lot of bugs I had to work through and some of them seem impossible to fixes. I had a low memory issue with my complier and computer and did realized till the next day shutting down my computer fixed it. Also think through the different cases that may come up such as different sized inputs, i.o text running out of output of characters, and the dealing with multiples of the buffer size were a challenge but I took it slowly and thought out the problem. Writing it down really helps. In the end the project complied every correctly.

Learned: I learned a lot about the design of the Operating system and How to use process and multiple program in java. This project was complex but interesting and learned new way to create programs.

Unresolved issue: only minor issue that probably would figure out if had more time, was a tiny dot symbol prints out to the screen right before the output: .Hello world ….. but could just be my IDE or some other bug. I finally got the programs to connect to each other and print out correctly.