Phy473 Readme

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1 Introduction

We created a program which takes input through a c++ program, and a python program plots output for the same. Using the shared memory libraries of c++, we pass the values from c++ program to a python program, without the need of any intermediate storage in Hard disk.

2 Logic

The c++ (**code.cpp**) program takes the input created using **file.c** . Then we allocate a shared memory to the program. Since we cannot pass on integer variables between programs through the shared memory, so we encoded the integer variables as a string:

Encoding: values 1 2 3 will be encoded as 1a2a3

Now we fork the processes, so that one of the child processes is taking the input and encoding it, while the other child processes waits till completion of the previous one and then call the python script.
In the python script, we create access to the shared memory using a shared memory key. Then we obtain the strings and decode it. We use the decode values to generate an animated plot.

3 Input

code.cpp file takes input in the following format:
length of array (n)
array a of size n
array b of size n

We provide an input file named **input**, but you can generate many more files by tweaking the values in **file.c**. Then,

g++ file.c
./a.out > input (redirecting the stdout to input file)

4 Compiling and Executing

g++ code.cpp
./a.out < input (redirecting input file to stdin)