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Programming Assignment 1
Operating Systems Concepts
Spring 2019

Assignment 1

For this assignment I had to create two children with 1 parent. In order to do so I had implement fork to create the children. I labeled one child as luis and the next child as luis2 using using fork. Using an if statement when luis is equal to 0 we create the first child and when luis2 is equal to 0 we make the second child. Once both children are established they have their own pid associated with them including the parent.

Once the parent and the children are set up you can create for loops to add elements of the array and get the total sum. The hard part of this assignment was creating the pipelining. You make a pipeline for reading and writing. You can use a bi directional or a one direction pipeline. For this case I used both. Using the pipeline, I sent the array to the children and then the children computed two different sums. The total sum is added and sent back to the parent via pipeline. The total sum is printed along with the children pid. Here is the output of the following program:

```
nvidia@tegra-ubuntu: ~/Desktop/C-code-IPC-master
nvidia@tegra-ubuntu:~/Desktop/C-code-IPC-master$ ./luis
I am parent with pid 3623 sending the array 2,3,5,7,1,3
I am parent of pid 3624, and pid: 3625. I have pid: 3623 and got partial results
10,11 and final result is 21.
I am child with pid 3624: adding the array 2,3,5 and sending partial sum 10
I am child with pid 3625: adding the array 7,1,3 and sending partial sum 11
```

