OS Lab assignment 5

Write a collection of 3 programs p1, p2, p3 such that they execute sequentailly with the same process-id, and each program should also print its PID. *(process id)* The user should be able to invoke any combination of these programs, to achieve the required functionality.

For example consider three programs *twice* , *half*, *square* which accept only one integer as argument and does some specific operation.

$twice 10 prints **20** and some int which is its process-id as output

$square 10 prints **100** and some int which is its process-id as output

$half 10 prints **5** and some int which is its process-id as output

Now the user should be able to combine these programs in any combination to achieve the required result.

For example:

$twice square half twice half 10

should calculate *half(twice(half(square(twice(10)))))* and print **200** as result. It should also print the process ids of each program as it executes. **Note that the process-id printed by each of these programs should be the same, in this case.**

$square twice 2

should calculate *twice(square(2))* and print **8** as result, and the process id of square and twice, which should be the same. The evaluation order is from left to right (leftmost evaluated first).

Note that the last argument is the integer, and the remaining arguments are the programs to be invoked.

It need not be the above three functions, choose any three functions/programs of your choice.

Hints / instructions

- Remeber that any number of programs should be executed within the same pid. The final result may be printed by the process that executes last.
- **Use execvp family of system calls.**
- Submit by Friday 2pm. It is for 10 marks. Do not copy code from friends as it is.