

I write a basic menu for shell as suggested in ps. In my shell.c menu there is only printf for calling showPrime, Factorize.asm and bubblesort.asm because I can't call system call 18 in a c file. Then I convert this menu to assembly in shell.asm and change if conditions to branch conditions and printf's that in functions to system call 18.

For running program first replaye syscall.h and syscall.cpp in spim with my own syscall.h and syscall.cpp files because I modified them. Then you can copy shell.asm, ShowPrimes.asm, Factorize.asm and BubbleSort.asm to spim directory. Then you can run shell.asm like ./spim -file shell.asm command. Here a menu come and you can run ShowPrimes.asm , Factorize.asm or BubbleSort.asm by entering their corresponding number in menu. After executing it shell return menu again and you can run another assembly file again until user enter 4 for exit.

ShowPrimes.asm basically prints all numbers between 0 and 1000 and if a number is a prime, it prints prime next to number.

Factorize.asm find and print factors o a number. Also you can enter a negative number too, it will run correctly for both negative and positive integers.

BubbleSort.asm takes 10 integers from user and then sort them by using bubble sort. Then print sorted array. Bubblesort example run :

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cse312@ubuntu: ~/Desktop/spimsimulator-code-r739/spim
-o string-stream.o ../CPU/string-stream.cpp
g++ -g spim.o spim-utils.o run.o mem.o inst.o data.o sym-tbl.o parser_yacc.o lex
.yy.o syscall.o display-utils.o string-stream.o -lm -o spim
cse312@ubuntu:~/Desktop/spimsimulator-code-r739/spim$ ./spim -file shell.s
Loaded: /home/cse312/Desktop/spimsimulator-code-r739/CPU/exceptions.s
***Choose program you want to run***
1-)ShowPrimes.asm
2-)Factorize.asm
3-)BubbleSort.asm
4-)Exit
Enter number(1-3) for running a program or exit(4):3
Enter 10 number for sorting: -8
3
-5
0
11
2
7
9
13
-27
Array sorted by using Bubble sort:-27 -8 -5 0 2 3 7 9 11 13
***Choose program you want to run***
1-)ShowPrimes.asm
2-)Factorize.asm
3-)BubbleSort.asm
4-)Exit
Enter number(1-3) for running a program or exit(4):
```