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1  /*Author:   Jesus Minjares
2  *Lab 01
3
4      Write a program that creates three processes to execute the
5      following three programs with command line arguments:
6      1. "cat /proc/cpuinfo"
7      2. "echo Hello World"
8      3. "uname -a"
9      and then waits for these three processes to complete before creating a process
10     to execute
11     "ls -l" and immediately printing "Goodbye!" and exiting; not waiting for the
12     last process to
13     complete.
14     -----
15     excelp(command, command, arguments, NULL)
16 */
17 #include <sys/wait.h>
18 #include <sys/types.h> //fork()
19 #include <unistd.h> //execl()
20 #include <stdlib.h>
21 #include <stdio.h>
22 int main(){
23     pid_t child[4]; //create 4 pid_t for each child of the parent
24     char *commands[] = {"cat","echo","uname", "ls"}; //commands
25     char *arguments[]= {"/proc/cpuinfo","Hello World","-a", "-l"}; //arguments
26     for(int i =0; i < 3; i++){ //iterate over the first 3 childs
27         child[i] = fork(); //fork a child
28         if(child[i] < 0){ //if child at i is negative, exit program
29             fprintf(stderr,"Error forking a process\n"); //error message
30             return -1; //exit
31         }
32         else if(child[i] == 0)//if the child at i is 0, then execute program
33             execlp(commands[i], commands[i], arguments[i], NULL);
34         else
35             waitpid(child[i] ,NULL, 0); //as the parent wait for the childs to end
36     }
37     //after the 3 child are done
38     child[3] = fork(); //fork another child
39     if(child[3] < 0){ //if negative, an error has ocured
40         fprintf(stderr,"Error forking a process\n");//error message
41         return -1; //exit
42     }
43     else if( child[3] == 0) //if the last child pid is 0, then execute program
44         execlp(commands[3], commands[3], arguments[3], NULL);
45     else
46         printf("Good bye!!!\n"); //dont wait for the last process to end
47     return 0;
48 }

```