Real Time Systems, January 2024

Write a C program to create n processes - Problem 3

Opened: Monday, 22 January 2024, 9:00 AM
Due: Friday, 2 February 2024, 11:59 PM

✔ Done

A polynomial of degree n (in one variable, with real coefficients) is an expression of the form: $\mathbf{a_n x^n + a_{n-1}x^{n-1} + a_{n-2}x^{n-2} + \cdots + a_2x^2 + a_1x + a_0}$ where a_n, a_{n-1}, a_{n-2}, $\cdots$ a_2, a_1, a_0 are real numbers. Example: $3x^4 - 2x^2 + 5x + 1$ is a polynomial of degree 4.

Write a complete C program that reads a polynomial of degree **n** through command line arguments. That is, when the program is executed as "**./a.out v a_n a_{n-1} a_{n-2} ... a_2 a_1 a_0**", it uses "***int argc" and "char *argv[]***" to read a_n, a_{n-1}, a_{n-2}, $\cdots$ a_2, a_1, a_0 and the value of x (say, v) for which the polynomial is to be evaluated.

The program then creates n+1 child processes P_0, P_1, P_2, ..., P_n such that P_i, $1 \leq i \leq n$, evaluates the i^{th} term of the polynomial. That is P_0 evaluates $\mathbf{a_n v^n}$,P_1 evaluates $\mathbf{a_{n-1}v^{n-1}}$, and so on. P_n, in addition to evaluating the nth term (a_0), also prints the value of the whole polynomial for v.

Please note that your program should be well-documented and properly indented for easy reading!

Submission status

Attempt number	This is attempt 1.
Submission status	Submitted for grading
Grading status	Not graded
Time remaining	Assignment was submitted 3 days early
Last modified	Tuesday, 30 January 2024, 11:30 PM

Online text	✚ (355 words)
	// for proper linking
	// gcc program3.c -o a.out -lm
	
	#include <stdio.h>
	#include <stdlib.h>
	#include <unistd.h>
	#include <sys/wait.h>
	#include ...

File submissions	program3.c — 30 January 2024, 11:29 PM

Submission comments	Comments (0)

◄ Write a C program to create n processes - Problem 2

Jump to...

Management of Processes (continued) ►