CAMPUS VIRTUAL UPC / Les meves assignatures / 2021/22-01:FIB-270020-CUTotal / Unit 1: Why parallel computing?

/ Questions after video lesson 1

Començat el	divendres, 10 de setembre 2021, 15:20
Estat	Acabat
Completat el	divendres, 10 de setembre 2021, 15:23
Temps emprat	2 minuts 35 segons
Qualificació	**5,00** sobre 5,00 (**100**%)

Pregunta **1**

Correcte

Puntuació 1,00 sobre 1,00

Let's consider two applications: App1 and App2. Assume that App1 and App2 execute N1=10 and N2=20 instructions, respectively, and that processors are able to execute 1 instruction per time unit (F=1).

How long the sequential execution of App1 would take if it is sent for execution on a single processor machine?

Trieu-ne una:

○ 5 time units

◉ 10 time units   ✔ Correct! N1=10 instructions at the rate of F=1 instructions per time unit

○ 20 time units

○ 30 time units

La teva resposta és correcta.

Pregunta **2**

Correcte

Puntuació 1,00 sobre 1,00

How long the sequential version of both applications App1 and App2 would it take if they are sent for execution (at the same time) on a single processor machine?

Trieu-ne una:

○ 10 time units

○ 15 time units

○ 20 time units

◉ 30 time units   ✔ Correct! In total N1+N2 instructions at the rate of F=1 instruction per time unit.

La teva resposta és correcta.

Pregunta **3**

Correcte

Puntuació 1,00 sobre 1,00

After how many time units the execution of the sequential version for both applications App1 and App2 (submitted at the same time) would be completed on a two processors machine?

Trieu-ne una:

○ 10 time units

○ 15 time units

◉ 20 time units ✔ **Correct!** Each application on a different processor, waiting for the termination of the longest one.

○ 30 time units

La teva resposta és correcta.

Pregunta **4**

Correcte

Puntuació 1,00 sobre 1,00

How long would it take if we send for execution a parallel (ideal) version of App2 on a 2 processors machine?

Trieu-ne una:

○ 2 time units

○ 5 time units

◉ 10 time units ✔ **Correct!** The total number of instructions (N2=20) will be ideally split between the two processors

○ 20 time units

La teva resposta és correcta.

Pregunta **5**

Correcte

Puntuació 1,00 sobre 1,00

And after how many time units the execution of the sequential version of App1 and the parallel (ideal) version of App2 would be completed on a 3 processors machine, considering that both applications are submitted at the same time and App2 can only make use of 2 processors.

Trieu-ne una:

○ 2 time units

○ 5 time units

◉ 10 time units ✔ **Correct!** App2 will use two processors, running at the same time than App1 on a single processor.

○ 20 time units

La teva resposta és correcta.

Salta a...