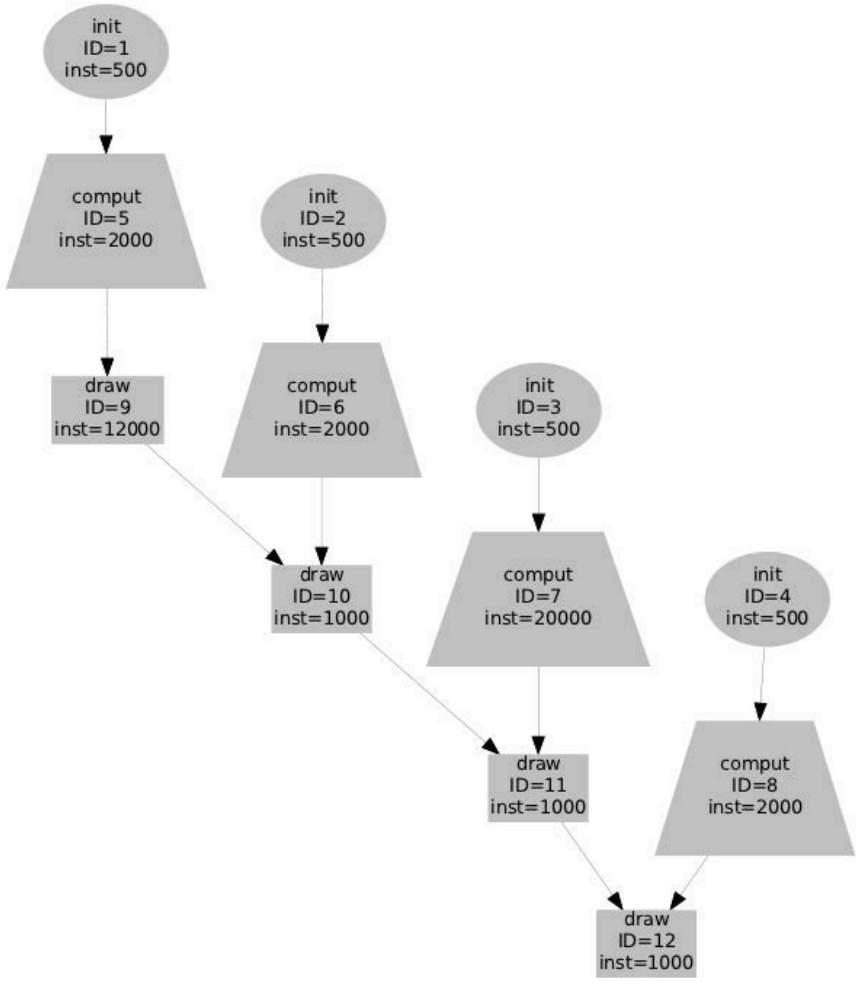
Començat el	dimarts, 21 de setembre 2021, 20:33
Estat	Acabat
Completat el	dimarts, 21 de setembre 2021, 20:39
Temps emprat	6 minuts 22 segons
Qualificació	**4,00** sobre 4,00 (**100**%)

Pregunta **1**

Correcte

Puntuació 1,00 sobre 1,00

Given the following task dependence graph (TDG). Each node is labeled with a name and also includes an identifier *ID* and cost *inst* in terms of the number of instructions.



The TDG can also be expressed textually with the following table:

name	ID	inst	succesor ID task
init	1	500	5
init	2	500	6
init	3	500	7
init	4	500	8
compute	5	2000	9
compute	6	2000	10
compute	7	20000	11
compute	8	2000	12

name ID inst succesor ID task

draw 9 12000 10
draw 10 1000 11
draw 11 1000 12
draw 12 1000 No successor

Observe that task *comput* with *ID=7* takes 10 times more that the other *comput* tasks and task *draw* with *ID=9* takes 12 times more than other *draw* tasks.

Assume that the tasks in the TDG are executed on 4 processors with the following task assignment: each processor executes a sequence *init-compute-draw* (for example the sequence {2, 6, 10}). Which is the speed-up that is obtained?

Trieu-ne una:

- 1.91 ✔ Well done!
- 2.45
- 4

La teva resposta és correcta.

La resposta correcta és: 1.91

Pregunta **2**

Correcte

Puntuació 1,00 sobre 1,00

Assuming that we are able to better balance the work among processors, which means that each node 1-4 weights 500, each node 5-8 weights 6500, and each node 9-12 weights 3750. Which is the speed-up that would be achieved with 4 processors, assuming the same task assignment as before?

Trieu-ne una:

- 4
- 1.95 ✔ Well done!
- 4.77

La teva resposta és correcta.

La resposta correcta és: 1.95

Pregunta **3**

Correcte

Puntuació 1,00 sobre 1,00

Assume a sequential application computing the sum of two vectors of size N=1024 elements. Which should be the problem size and task granularity when parallelized with P=4 processors and strong scaling:

Trieu-ne una:

- 1024 and 256, respectively. ✔ Well done! In *Strong Scaling* the problem size is kept fixed and distributed across all tasks.
- 1024 and 1024, respectively.
- 4096 and 1024, respectively.

La teva resposta és correcta.

La resposta correcta és: 1024 and 256, respectively.

La resposta correcta és: 1024 and 256, respectively.

Pregunta **4**

Correcte

Puntuació 1,00 sobre 1,00

Which should be the problem size and task granularity when parallelized with P=4 processors and weak scaling:

Trieu-ne una:

- 1024 and 256, respectively.
- 4096 and 256, respectively.
- 4096 and 1024, respectively.

✔ Well done! The total problem size is increased in order to maintain the task granularity.

La teva resposta és correcta.

La resposta correcta és: 4096 and 1024, respectively.

◄ Video lesson 3 (part 2)

Salta a...

Video lesson 3 (part 3) ►