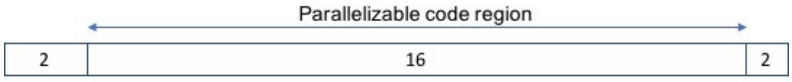
Començat el	divendres, 24 de setembre 2021, 11:08
Estat	Acabat
Completat el	divendres, 24 de setembre 2021, 11:41
Temps emprat	33 minuts 38 segons
Qualificació	**5,00** sobre 5,00 (**100**%)

Pregunta **1**

Correcte

Puntuació 1,00 sobre 1,00

Given the following execution timing diagram of a sequential application:



In the timeline there are three computation bursts, the first with a duration of 2 time units, the second with a duration of 16 time units and the last one also with a duration of 2 time units. Only the second execution burst can be parallelized (decomposed into parallel tasks), the other two can not be parallelized.

Which is the parallel fraction (ϕ) of the application?

Trieu-ne una:

- 0.25
- 0.8 ✔ Well done!
- 0.2

La teva resposta és correcta.

La resposta correcta és: 0.8

Pregunta **2**

Correcte

Puntuació 1,00 sobre 1,00

Which would be the speed-up that could be achieved using infinite processors (S_∞), assuming that the parallelizable region can be ideally decomposed into infinite tasks)?

Trieu-ne una:

- 5 ✔ Well done!
- 1.33
- 1.25

La teva resposta és correcta.

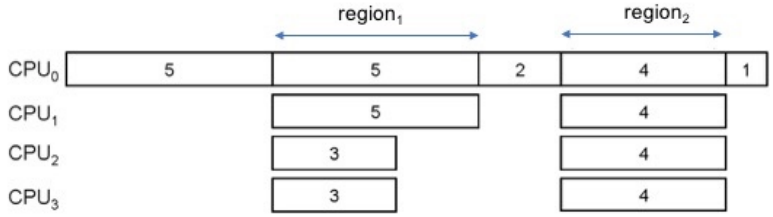
La resposta correcta és: 5

Pregunta **3**

Correcte

Puntuació 1,00 sobre 1,00

Given the following execution timing diagram of an application executed on 4 processors (CPU_0 to CPU_3):



In the timeline there are two parallelizable regions: $region_1$ and $region_2$. In $region_1$ CPU_0 and CPU_1 execute computation bursts that last 5 time units, while CPU_2 and CPU_3 execute bursts that only last 3 time units (load unbalanced). In $region_2$ all processors execute a computation burst that lasts 4 time units (load balanced). $Region_1$ is preceded by a non-parallelizable computation bursts that lasts 5 time units. In between $region_1$ and $region_2$ there is non-parallelizable computation burst that lasts 2 time units. Finally, $region_2$ is followed by a non-parallelizable task that only lasts 1 time unit.

Which speed-up is achieved in the execution with 4 processors (S_4)?

Trieu-ne una:

- 2.5
- 2.35 ✔ Well done!
- 4

La teva resposta és correcta.

La resposta correcta és: 2.35

Pregunta **4**

Correcte

Puntuació 1,00 sobre 1,00

Which is the parallel fraction (ϕ) of the application?

Trieu-ne una:

- 0.52
- 0.2
- 0.8 ✔ Well done!

La teva resposta és correcta.

La resposta correcta és: 0.8

Pregunta **5**

Correcte

Puntuació 1,00 sobre 1,00

Which is the speed-up that can be achieved using infinite processors (S_∞), assuming that the parallel regions can be decomposed into the infinite)?

Trieu-ne una:

- 2.08
- 1.25
- 5 ✔ Well done!

La teva resposta és correcta.

La resposta correcta és: 5

◄ Video lesson 3 (part 3)

Salta a...

Video lesson 3 (part 4) ►