

# Assignment Hospital Part 2

The number of FTEs currently working at the IC is already being monitored. The hospital wants to estimate the number of FTEs that are needed to staff the ICU. Their estimate is as follows:

DEPENDENCY	AMOUNT OF FTE
HEART MONITOR	0,3
BLOODPRESSURE MONITOR	0,1
PATIENT	1,0
PATIENT (BEDRIDDEN)	2,0

Table 1, FTE estimation

Adjust your program so that it is possible to determine *at any time* how many FTEs are needed to keep the ICU running.

## Implement the following

- Update your class diagram if necessary and expand your software.

There appears to be a catch regarding the FTEs. If the FTEs are divided over multiple dependencies, overhead is involved. If there are more than five dependencies, 0.2 FTE overhead per unit will be added.

### Example

There is a hospital with two heart monitors, two blood pressure monitors and two patients. The total FTE will be:  $(0,3 + 0,3 + 0,1 + 0,1 + 1,0 + 1,0 + (6 * 0,2)) = 4 \text{ fte's}$ .

Make a separate FTE calculator for this. In this calculator, the individual dependencies can be stopped. This then calculates the total FTEs.

## Implement the following

- Update your class diagram if necessary and expand your software.

Write a method that indicates whether a new patient can be admitted. There are two conditions for this: there must be an empty bed available and there must be enough FTE available.

## Implement the following

- Update your class diagram if necessary and expand your software.

To finish the software, there must be another method to add a patient to the intensive care.

- a) Throw an exception `CodeBlackException` if the hospital no longer has room for the patient. If there is room, place it in the first available bed.
- b) Write Unit tests for this exception.

**c) ✂ Implement the following**

- d) • Update your class diagram if necessary and expand your software.