

Kayson, The EPC Company¹

You work as an analyst for Kayson, an EPC company². Kayson is about to sign a contract for building a hospital in the middle of Baltimore City. The city council would like to know the estimate of the duration of the project for some planning purposes. In order to accomplish this, you have listed main stages of the project as follows and assigned the most likely values to the duration of each stage.

Main Stage	Most likely duration (in weeks)
Design	28
Plan	5
Digging	6
Archaeological excavation	4
Foundation	10
Walls	24
Roof	4
Finishes	12
Installations	4
Project Commissioning	15
Most likely finish time	112

Each stage may start only after the previous one is completed. There is no possibility of parallel stages. Actual duration of each stage is uncertain. Due to unforeseen circumstances, each stage may take 60% longer than its most likely duration (maximum possible duration). Additionally, you are aware that by allocating more resources, Kayson may reduce duration of each stage by about 25% (minimum possible duration).

¹This is intended to serve as the basis for class discussion.

²EPC stands for Engineering, Procurement, and Construction. EPC is a prominent form of contracting agreement in the construction industry. In the Engineering phase, a company will carry out the detailed engineering design of a project. In the Procurement phase, the company procures all the equipment and materials necessary, and then at the construction phase, it constructs the project and delivers a functioning facility to its clients. Companies that deliver EPC Projects are commonly referred to as EPC Contractors.