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Design Patterns Project

Question #3

Pattern Chosen : **Composite Pattern**

[*] I used the **composite pattern** because the composite pattern lets us treat individual and composite objects uniformly and also lets us create a hierarchy. It is easy to see this from the pattern's intent and applicability.

its **Intent**   is:

"Compose objects into tree structures to represent part-whole hierarchies. Composite lets clients treat individual objects and compositions of objects uniformly." and

The two **applicability** of the composite pattern are:

• you want to represent part-whole hierarchies of objects.

• you want clients to be able to ignore the difference between compositions of objects and individual objects. Clients will treat all objects in the composite structure uniformly.

[*] Which applies to this question as we need to create a part-whole hierarchy of employees, in which the composite employees (CEOs, CTOs,..) have other employees under them. This kind of hierarchy can be represented with a tree and when traversing the tree in order to compute the control span cost, it becomes easier for the client to just treat composite employees and leaf employees uniformly as Employees. Therefore the composite pattern perfectly suits this

problem domain.