

Question 1: You have implemented the Singleton design pattern as a class named (very originally) “Singleton”.

1. What happens if someone tries to clone a Singleton object using the clone() method inherited from Object? Does it lead to the creation of a second distinct Singleton object? Justify your answer. **(5 points)**

Cloning another Singleton object is possible. But if somebody will clone, it will violate principle of Singleton Design Pattern.

2. Cloning Singletons should not be allowed. How can you prevent the cloning of a Singleton object? **(5 points)**

We can throw CloneNotSupportedException in the Clone() method. This exception is used for to indicate that an object could not or should not be cloned.

3. Let's assume the class Singleton is a subclass of class Parent, that fully implements the Cloneable interface. How would you answer questions 1 and 2 in this case? **(10 points)**

We can override the clone() method in class Singleton and throw the CloneNotSupportedException.