State Pattern Exercise

Use the State pattern to implement a GumballMachine class in Java. Your class should keep track of how much money it contains (your profit!), how many gumballs it contains, and whether or not there is a quarter in the "slot" that accepts money. It should also have at least the following operations/methods:

- addGumballs(int count) // adds more gumballs to the machine
- insertQuarter() // inserts a quarter into the slot
- removeQuarter() // removes the quarter currently in the slot (user changed their mind)
- turnHandle() // consumes quarter and dispenses gumballs

Your gumball machine should always be in one of the following states:

- NoGumballs / NoQuarterInSlot
- NoGumballs / QuarterInSlot
- Gumballs / NoQuarterInSlot
- Gumballs / QuarterInSlot

You should have a GumballMachine class, a State class, and appropriate State subclasses. Each operation on the GumballMachine class should properly update the machine's money total, gumball count, and slot configuration (quarter or no quarter).

Zip up and submit your code on Canvas.