

Now, let's look at the complete GumballMachine class...

```
public class GumballMachine {
```

```
    State soldOutState;
    State noQuarterState;
    State hasQuarterState;
    State soldState;
```

```
    State state = soldOutState;
    int count = 0;
```

```
    public GumballMachine(int numberGumballs) {
        soldOutState = new SoldOutState(this);
        noQuarterState = new NoQuarterState(this);
        hasQuarterState = new HasQuarterState(this);
        soldState = new SoldState(this);
        this.count = numberGumballs;
        if (numberGumballs > 0) {
            state = noQuarterState;
        }
    }
```

```
    public void insertQuarter() {
        state.insertQuarter();
    }
```

```
    public void ejectQuarter() {
        state.ejectQuarter();
    }
```

```
    public void turnCrank() {
        state.turnCrank();
        state.dispense();
    }
```

```
    void setState(State state) {
        this.state = state;
    }
```

```
    void releaseBall() {
        System.out.println("A gumball comes rolling out the slot...");
        if (count != 0) {
            count = count - 1;
        }
    }
```

```
    // More methods here including getters for each State...
}
```

Here are all the States again...

...and the State instance variable.

The count instance variable holds the count of gumballs - initially the machine is empty.

Our constructor takes the initial number of gumballs and stores it in an instance variable.

It also creates the State instances, one of each.

If there are more than 0 gumballs we set the state to the NoQuarterState.

Now for the actions. These are VERY EASY to implement now. We just delegate to the current state.

Note that we don't need an action method for dispense() in GumballMachine because it's just an internal action; a user can't ask the machine to dispense directly. But we do call dispense() on the State object from the turnCrank() method.

This method allows other objects (like our State objects) to transition the machine to a different state.

The machine supports a releaseBall() helper method that releases the ball and decrements the count instance variable.

This includes methods like getNoQuarterState() for getting each state object, and getCount() for getting the gumball count.