

SDS Code Challenge

Hi and welcome to the Inn. As you know, we are a small inn with a prime location in a prominent city ran by a friendly innkeeper named Allison. We also buy and sell only the finest goods. Unfortunately, our goods are constantly degrading in quality as they approach their sell by date. We need a system to help us keep track of the value of the items in our shop.

Introduction to the shop

The shop tracks items in its inventory by their quality and the number of days remaining until the item needs to be sold.

Item Properties

Property	Description
sellIn	number of days we have to sell the item
quality	how valuable the item is

- At the end of each day, `quality` decrements by `1`
- At the end of each day, `sellIn` decrements by `1`
- Once the sell by date has passed, `quality` degrades twice as fast
- The `quality` of an item is never negative
- The `quality` of an item is never more than `50`

Special Items

Some types of items in our shop deviate from the normal deprecation rules:

Item	Property
Aged Brie	Quality increments by 1 as the sell by date approaches
Sulfuras	Never has to be sold and never decreases in quality
Concert backstage passes	quality increments by 1 as the sell by date approaches and increments by 2 when there are 10 days or less; the quality drops to 0 after the sell by date

Requirements

- You must create an inventory system that, given a list of items in the shop, calculates the value of the items **n** days in the future.
- The system should be unit tested to ensure the values being reported are correct.
- Preferably the system should be written using Java 8.

The items currently in our inventory are:

Item	sellIn	quality
+5 Dexterity Vest	10	20
Aged Brie	2	0
Elixir of the Mongoose	5	7
Sulfuras	0	80
Concert backstage passes	15	20

Optional

- Create the system as a SpringBoot REST service
- Package the application in a Docker container for deployment to a cloud service.