Kata Potter

1. Make a test list (or use provided)
2. Agree on order of implementation

(no coding in the first 10 minutes)

from <http://codingdojo.org/cgi-bin/index.pl?KataPotter>

One copy of any of the five books costs 8 EUR. If, however, you buy two different books from the series, you get a 5% discount on those two books. If you buy 3 different books, you get a 10% discount. With 4 different books, you get a 20% discount. If you go the whole hog, and buy all 5, you get a huge 25% discount.

Note that if you buy, say, four books, of which 3 are different titles, you get a 10% discount on the 3 that form part of a set, but the fourth book still costs 8 EUR.

For example, how much does this basket of books cost?

2 copies of the first book

2 copies of the second book

2 copies of the third book

1 copy of the fourth book

1 copy of the fifth book

(answer: 51.20 EUR)

**Clues: 2x4 >1x3+1x5**

**Suggested Test Cases**

(Originally posted at xp-france.net/cgi-bin/wiki.pl?[KataPotter](http://codingdojo.org/cgi-bin/index.pl?KataPotter))

def testBasics

assert\_equal(0, price([]))

assert\_equal(8, price([0]))

assert\_equal(8, price([1]))

assert\_equal(8, price([2]))

assert\_equal(8, price([3]))

assert\_equal(8, price([4]))

assert\_equal(8 \* 2, price([0, 0]))

assert\_equal(8 \* 3, price([1, 1, 1]))

end

def testSimpleDiscounts

assert\_equal(8 \* 2 \* 0.95, price([0, 1]))

assert\_equal(8 \* 3 \* 0.9, price([0, 2, 4]))

assert\_equal(8 \* 4 \* 0.8, price([0, 1, 2, 4]))

assert\_equal(8 \* 5 \* 0.75, price([0, 1, 2, 3, 4]))

end

def testSeveralDiscounts

assert\_equal(8 + (8 \* 2 \* 0.95), price([0, 0, 1]))

assert\_equal(2 \* (8 \* 2 \* 0.95), price([0, 0, 1, 1]))

assert\_equal((8 \* 4 \* 0.8) + (8 \* 2 \* 0.95), price([0, 0, 1, 2, 2, 3]))

assert\_equal(8 + (8 \* 5 \* 0.75), price([0, 1, 1, 2, 3, 4]))

end

def testEdgeCases

assert\_equal(2 \* (8 \* 4 \* 0.8), price([0, 0, 1, 1, 2, 2, 3, 4]))

assert\_equal(3 \* (8 \* 5 \* 0.75) + 2 \* (8 \* 4 \* 0.8),

price([0, 0, 0, 0, 0,

1, 1, 1, 1, 1,

2, 2, 2, 2,

3, 3, 3, 3, 3,

4, 4, 4, 4]))

end