

Programming Challenge: Price Calculator for Shopping Basket

Expectation

- Produce working, **object-oriented** source code to solve the following problems
- Should be send back in electronic format as a complete project with related unit tests
- We will walk through your code together in the next session, answering questions on the code and programming/design choices you made.

Description

Write a program and associated unit tests that can price a basket of goods taking into account some special offers.

The goods that can be purchased, together with their normal prices are:

- Beans – 65p per can
- Bread – 80p per loaf
- Milk – £1.30 per bottle
- Apples – £1.00 per bag

Current special offers:

- Apples have a 10% discount off their normal price this week
- Buy 2 cans of Bean and get a loaf of bread for half price

The program should accept a list of items in the basket and output the subtotal, the special offer discounts and the final price.

Input should be via the command line in the form

```
PriceCalculator item1 item2 item3 ...
```

For example:

```
> PriceCalculator Apple Milk Bread
```

Output should be to the console, for example:

```
Subtotal: £3.10
Apples 10% off: -10p
Total: £3.00
```

If no special offers are applicable the code should output:

```
Subtotal: £1.30
(No offers available)
Total price: £1.30
```

The code and design should meet these requirements, but be sufficiently flexible to allow future changes to the product list and/or discounts applied.

The codes should be well structured, commented, have error handling and be tested