Documentation for the product.rkt teachpack

The teachpack product.rkt contains structures used for manipulating product information. Information on how to install teachpacks can be found on the course website.

1 Structure and data definitions

(define-struct single-product (name origin))
;; A Single-Product is a (make-single-product Str Str)
;; where origin is a string denoting the country of origin.

(define-struct sales-product (ID prod))
;; A Sales-Product is a (make-sales-product Int (anyof Single-Product Product-List))

;; A Product-List is a (listof Sales-Product)

2 Built-in data

To save you time, the teachpack includes the definition of many constants. You are welcome to create more definitions along with the functions that you create for labs and assignments.

;; Examples of Single-Product
(define lipbalm (make-single-product "lipbalm" "Denmark"))
(define lipgloss (make-single-product "lipgloss" "Cuba"))
(define handlotion (make-single-product "hand lotion" "Kenya"))
(define shampoo (make-single-product "shampoo" "Canada"))
(define conditioner (make-single-product "conditioner" "New Zealand"))
(define soap (make-single-product "soap" "Canada"))
(define facialscrub (make-single-product "facialscrub" "Cuba"))

;; Examples of Sales-Product, where each prod is a Single-Product.
(define lipbalmpack (make-sales-product 123 lipbalm))
(define lipglosspack (make-sales-product 103 lipgloss))
(define handlotionpack (make-sales-product 192 handlotion))
(define shampoopack (make-sales-product 156 shampoo))
(define conditionerpack (make-sales-product 183 conditioner))
(define soappack (make-sales-product 134 soap))
(define facialscrubpack (make-sales-product 122 facialscrub))

;; Examples of Sales-Product, where some elements of the Product-List
;; are in turn Sales-Products containing Product-Lists
(define lipkit (make-sales-product 342 (list lipbalmpack lipglosspack)))
(define hairkit (make-sales-product 356 (list shampoopack conditionerpack)))
(define facekit (make-sales-product 344 (list soappack facialscrubpack)))

(define cleankit (make-sales-product 399
                                     (list soappack shampoopack facialscrubpack)))

;; Examples of Sales-Product, some elements of prod are lists
(define promokit (make-sales-product 453 (list lipkit soappack hairkit)))

(define allkit (make-sales-product 567
                                   (list lipkit hairkit facekit cleankit)))

(define bargainkit (make-sales-product 684 (list allkit promokit
                                             handlotionpack lipkit)))