

Class diagram for shopping system

Launch
+main(String[] args): void

Runner
-shopper: Shopper -basket: Basket -checkout: Checkout -stock: Stock
+Runner(): constructor +run(): void +getLoyalty(): boolean +getName(): String +pause(): void +showStock(): void

Buyable (Abstract superclass)
-name: String -price: double -bogof: boolean
+Buyable(String name, double price, boolean bogof): constructor +getName(): String +getPrice(): double +checkBogof(): boolean

Drink (extends Buyable)
+Drink(String name, double price, boolean bogof): constructor

Sandwich (extends Buyable)
+Sandwich(String name, double price, boolean bogof): constructor

Shopper
-loyaltyCard: boolean -name: String
+Shopper(String name, boolean loyaltyCard): constructor +hasLoyaltyCard(): boolean

Stock
-items: ArrayList<Buyable>
+Stock(ArrayList<Buyable> stock): constructor +getItems(): ArrayList<Buyable>

Basket
-items: ArrayList<Buyable>
+Basket(): constructor +empty(): void +addItem(Buyable item): void +removeItem(Buyable toRemove): Buyable +getItems(): ArrayList<Buyable>

Checkout
-bogofItems: ArrayList<Buyable> -bogofDiscount: double -basket: Basket -shopper: Shopper
+Checkout(Basket basket, Shopper shopper): constructor +getFinalTotal(): double +applyLoyaltyCardDiscount(): double +applyTenPercentDiscount(): double +applyBogofDiscount(): double +getTotal(): double +createBogofArray(ArrayList<Buyable> items): void +calcBogofDiscount(ArrayList<Buyable> bogofItems): void +getBogofDiscount(): double