CLASS Bag<T>

DECLARE private variable itemInventoryMap as Map<T, Integer>

DECLARE private constant POTION, ELIXIR, ANTIDOTE, REVIVE as String

CONSTRUCTOR Bag()

INITIALIZE itemInventoryMap as new HashMap<T, Integer>()

SET UP logger with custom formatter

METHOD add(item)

IF item exists in itemInventoryMap

INCREMENT the count of item by 1

ELSE

ADD item to itemInventoryMap with a count of 1

METHOD remove(item)

IF item exists in itemInventoryMap

GET current count of item

IF count is greater than 1

DECREMENT the count of item by 1

ELSE

REMOVE item from itemInventoryMap

METHOD contains(item) RETURNS boolean

RETURN true if item exists in itemInventoryMap, otherwise return false

METHOD count(item) RETURNS int

RETURN the count of item in itemInventoryMap, or 0 if item does not exist

METHOD printContents()

IF logger is enabled for INFO level

LOG "Player's Inventory: "

FOR EACH entry in itemInventoryMap

LOG the item name and its count

END CLASS

MAIN METHOD

CREATE an instance of Bag<String> called playerInventory

CALL playerInventory.add(POTION)

CALL playerInventory.add(POTION)

CALL playerInventory.add(POTION)

CALL playerInventory.add(ELIXIR)

CALL playerInventory.add(ELIXIR)

CALL playerInventory.add(ANTIDOTE)

CALL playerInventory.printContents()

DECLARE boolean containsPotion as the result of playerInventory.contains(POTION)

DECLARE boolean containsRevive as the result of playerInventory.contains(REVIVE)

DECLARE int potionCount as the result of playerInventory.count(POTION)

DECLARE int elixirCount as the result of playerInventory.count(ELIXIR)

IF logger is enabled for INFO level

IF containsPotion is true

LOG "There are potions in the inventory."

ELSE

LOG "There are no potions in the inventory."

IF containsRevive is true

LOG "There are revives in the inventory."

ELSE

LOG "There are no revives in the inventory."

LOG the count of potions: "There are potionCount potions in the inventory."

LOG the count of elixirs: "There are elixirCount elixirs in the inventory."

LOG "Player used a potion."

CALL playerInventory.remove(POTION)

LOG "Items remaining in inventory: "

CALL playerInventory.printContents()

UPDATE containsPotion with the result of playerInventory.contains(POTION)

UPDATE potionCount with the result of playerInventory.count(POTION)

IF logger is enabled for INFO level

LOG "Does Inventory contain potion? containsPotion"

LOG "Number of potions in Inventory: potionCount"

END MAIN METHOD