

```
3 """
4 # A list of coins allowed
5 ACCEPTABLE_COINS = [200, 100, 25, 10, 5]
6
7 # A mapping of products and their prices
8 PRODUCT_PRICES = {
9     'drink': 275,
10     'chips': 225,
11     'candy': 315
12 }
13
14 def insert_coin(coin, inserted_coins):
15     """
16     Accepts a coin and appends it to inserted_coins list.
17     """
18     if coin not in ACCEPTABLE_COINS:
19         raise ValueError
20     inserted_coins.append(coin)
21
22
23 def return_change(balance):
24     """
25     Returns balance in coins.
26     """
27     change = []
28     balance -= balance % 5
29
30     while balance > 0:
31         for coin in ACCEPTABLE_COINS:
32             if balance % coin == 0:
33                 change.append(coin)
34                 balance -= coin
35                 break
36
37     return sorted(change, reverse=True)
38
39
40 def buy_product(product, balance):
41     """
42     Debits the balance using the product's price. A sufficient
43     balance must be provided to complete the purchase.
44     """
45     if product not in PRODUCT_PRICES:
46         raise ValueError
47     price = PRODUCT_PRICES[product]
48
49     if balance < price:
50         raise InsufficientFunds
51
52     return balance - price
53
54
55 class InsufficientFunds(Exception):
56     """
57     Exception used to indicate that there isn't
58     enough money to make a purchase.
59     """
```

Basic outline

This i can put it
in class
if do

56 lines (36 sloc) 1.84 KB



Raw

Blame



Vending Machine

Program Requirements

1. Insert coins

- Write a function called `insert_coin` which takes two arguments: one called `coin` and another called `inserted_coins`.
- The `coin` parameter will accept the values any of the following values: 5, 10, 25, 100, 200. These values represents cents. Any other value should raise a `ValueError` exception.
- The `"inserted_coins"` parameter is a list
- When the function `insert_coin()` is called, the `"coin"` value is appended to the `insert_coins` parameter.

2. Buy a product

- Write a function called `buy_product` which takes two arguments: one called `"product"` and the other is called `"balance"`.
- The `product` argument may be one of the following values: `"drink"`, `"candy"`, `"chips"`. Any other value should raise a `ValueError` exception.
- `balance` is an integer representing the current balance of funds available
- When the `buy_product` function is called, the price of the chosen product is compared to the balance.
- If the balance of the inserted coins is less than the cost of the product, a custom exception called `InsufficientFunds` should be raised.
- If the balance equals or exceeds the cost of the product, then the function will return the balance minus the cost of the purchased product.
- The product costs are:
 - Drink: \$2.75
 - Chips: \$2.25
 - Candy: \$3.15

3. Return change

- Write a function called `return_change` which takes a single argument called `"balance"`.
- If the balance is greater than zero, return a list of coins (can be any combination of 5, 10, 25, 100, 200) which will sum up to the balance.
- If for whatever reason the balance is not a multiple of 5, then the sum of coins returned should be rounded down to the nearest multiple of 5, and not exceed the balance.
- The coins returned should be the largest first, then the smallest.