

```
1 class ShoppingCart:
2
3     def __init__(self, emp_discount=None):
4         self.total = 0
5         self.employee_discount = emp_discount
6         self.items = []
7
8     @property
9     def items(self):
10         return self._items
11
12     @items.setter
13     def items(self, list_of_items):
14         self._items = list_of_items
15         return self.items
16
17     @property
18     def employee_discount(self):
19         return self._employee_discount
20
21     @employee_discount.setter
22     def employee_discount(self, new_employee_discount):
23         self._employee_discount = new_employee_discount
24         return self.employee_discount
25
26     @property
27     def total(self):
28         return self._total
29
30     @total.setter
31     def total(self, new_total):
32         self._total = new_total
33         return self.total
34
35     def add_item(self, name, price, quantity=1):
36         for i in list(range(quantity)):
37             self.items.append({"name": name, "price": price})
38             self.total += price
39         return self.total
40
41     def mean_item_price(self):
42         num_items = len(self.items)
43         total = self.total
44         mean = total/num_items
45         return mean
46
47     def median_item_price(self):
48         prices = [self.get_attr(item, "price") for item in self.items]
49         prices.sort()
50         return self.find_median(prices)
51
52     def find_median(self, list_of_prices):
53         length = len(list_of_prices)
54         if (length%2 == 0):
55             mid_one = int(length/2)
56             mid_two = mid_one - 1
57             median = (list_of_prices[mid_one] + list_of_prices[mid_two])/2
58             return median
59         mid = int(length/2)
60         return list_of_prices[mid]
61
62     def apply_discount(self):
63         if self.employee_discount:
64             discount = self.employee_discount/100
65             disc_total = self.total * (1 - discount)
66             return disc_total
67         else:
68             return "Sorry, there is no discount to apply to your cart :("
69
70     def get_attr(self, item, attr):
71         return item[attr]
72
73     def item_names(self):
74         names = [self.get_attr(item, "name") for item in self.items]
75         return names
76
77     def void_last_item(self):
78         if self.items:
79             removed_item = self.items.pop()
80         else:
81             return "There are no items in your cart!"
82         self.total -= removed_item['price']
```