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#4/17/2024
#P5LAB
#User-defined functions
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```
#Define function
```

```
def disperse_change(change):
```

```
    if change == 0:
        print("No Change Due")
```

```
    #Calculate the amount of each coin needed
    #integer division - //
```

```
    num_dollars = change // 100
    change = change - (num_dollars * 100)
```

```
    num_quarters = change // 25
    change = change - (num_quarters * 25)
```

```
    num_dimes = change // 10
    change = change - (num_dimes * 10)
```

```
    num_nickles = change // 5
    change = change - (num_nickles * 5)
```

```
    num_pennies = change // 1
```

```
    #Display coins owed
```

```
    if num_dollars > 0:
        print(num_dollars, end=" ")
        if num_dollars == 1:
            print("Dollar")
        else:
            print("Dollars")
```

```
    if num_quarters > 0:
        print(num_quarters, end=" ")
        if num_quarters == 1:
            print("Quarter")
        else:
            print("Quarters")
```

```
    if num_dimes > 0:
        print(num_dimes, end=" ")
        if num_dimes == 1:
            print("Dime")
        else:
            print("Dimes")
```

```
    if num_nickles > 0:
        print(num_nickles, end=" ")
        if num_nickles == 1:
            print("Nickle")
        else:
            print("Nickles")
```

```
    if num_pennies > 0:
        print(num_pennies, end=" ")
        if num_pennies == 1:
            print("Penny")
        else:
            print("Pennies")
```

```
def show_avail_items(dictionary):
    print(f"{'Grocery Item':<25}{'Price':}")
    print("-----")
    for key, value in dictionary.items():
        print(f"{key:<25}${value:.2f}")
    print("-----")
```

```
def add_items(dictionary):
    cart = []
    item = input("Enter an item to add to the cart or type 'end' to stop adding items: ")
    while item != "end":
        if item in dictionary.keys():
            cart.append(item)
        else:
            print(f"{item} is not in stock")

        item = input("Enter an item to add to the cart or type 'end' to stop adding items: ")
    return cart

def get_total(cart, dictionary):
```

```

print("Grocery Receipt")
print("-----")
total = 0
for item in cart:
    print(f"{item:<20}${dictionary[item]:.2f}")
    total += dictionary[item]

print()
print(f"SUBTOTAL:          ${total:.2f}")
tax = total * .07
final_total = total + tax
print(f"TAX:              ${tax:.2f}")
print(f"TOTAL:              ${final_total:.2f}")

return final_total

```

```

def main():
    items = {"apples":3.69, "berries": 4.00, "chocolate":2.89, \

            "turkey":6.99, "cheese":4.00, "pepsi":7.89,\

            "eggs":3.50, "bread": 3.00}

    show_avail_items(items)

    cart = add_items(items)
    print()

    print("The items currently in your cart are: ")
    for item in cart:
        print(item)
    print()

    final_total = get_total(cart, items)

    print()
    user_input = float(input("How much cash will you put into the machine? $"))
    change = user_input - final_total

    print()
    print(f"Change owed to customer: ${change:.2f}")
    print()

    change = change * 100
    disperse_change(change)

main()

```