Unit Testing of the check\_cart Function

The objective of the check\_cart function is to display the products in the cart and allows the user to proceed to checkout if they want to.

The check\_cart(user, cart) function takes two parameters: user and cart. It prints the products in the cart and prompts the user with a checkout question. The function returns True if the user chooses to checkout and False otherwise.

The tests will cover various scenarios to ensure the correctness of the check\_cart function. The input domain can be divided into several equivalence classes (EC):

1. The user has an empty cart and responds N to the prompt.
2. The user has a non-empty cart and responds N to the prompt.
3. The user has an empty cart and responds Y to the prompt.
4. The user has a non-empty cart and responds Y to the prompt and has sufficient funds.
5. The user has a non-empty cart and responds Y to the prompt and has insufficient funds.
6. User tries to re-add an empty item to cart.
7. The user tries to re-add empty product after emptying stock and then checks cart.

The coverage criteria we will use are:

For each EC, we need to test at least one input.

This leads to the following test requirements:

R1. User responds no to the prompt, then the function should return False.

R2. User should get a list of items, and then the function should return False.

R3. The function should inform the user that the cart is empty.

R4. The function should inform the user of the carts contents and successfully checkout the cart.

R5. The function should inform the user that they don’t have enough funds.

R6. The user should not be able to re-add the product and should receive an error message.

R7. The user should not be able to re-add the product and the cart should be empty, therefore the user should get a prompt saying the cart is empty.

These lead to the corresponding test cases:

TC1. User Responds No to the Prompt

TC2. User responds no to prompt with items in cart

TC3. Empty Cart

TC4. Non-empty Cart, Sufficient Funds

TC5. Non-empty Cart, Insufficient Funds

TC6. User Tries to Re-add an Empty Item to Cart

TC7. User Tries to Re-add Empty Product After Emptying Stock and Then Checks Cart

To test the cases several stubs were created, copy\_csv\_file, test\_user, test\_cart, test\_products and mock\_input