UNIT TESTS

1. A function called "multiplication" that returns the product of the two input numbers.

* Expect multiplication(num1, num2) to be a number
* Expect multiplication(num1, 0) to be equal to 0
* Expect multiplication(num1, -num2) to be a negative number
* Expect multiplication(“num1”, num2) to be an error

1. A function called "concatOdds" takes two arrays of integers as arguments. It should return a single array that only contains the odd numbers, in ascending order, from both of the arrays.
   * Example: concatOdds([3, 2, 1], [9, 1, 1, 1, 4, 15, -1])
     + ...should result in [-1, 1, 3, 9, 15]

* Expect initialize an empty set to place the odd numbers
* Expect loop through each array and filter the odd numbers
* Expect convert the set of odd number to a sorted list in ascending order
* Expect Return the sorted list of odd numbers
  + Think about the following; you may need to make assumptions or decisions about the prompt and how the code should behave:
    - What should happen with unexpected inputs?
* Expect function to check if a number is an integer
* Expect function to check if a number is odd
  + - * What kinds of unexpected inputs should we worry about?
* Expect Check for arrays containing values that are not an integer or other non-numeric values
* Expect Check for arrays that only contain even numbers
* Expect Check for arrays with repeating values
* Expect Check for arrays that have mixed values (integer and i.e., strings)
  + - What should happen when there are multiples of the same odd number in the arrays? (Hint: We gave you the answer to this one in the example above.)
* Expect function to only include each unique odd number once in the array
* Expect Create a sorted list of odd numbers
* Expect Sort the list in ascending order

FUNCTIONAL TESTS

1. A shopping cart checkout feature that allows a user to check out as a guest (without an account), or as a logged-in user. They should be allowed to do either, but should be asked if they want to create an account or log in if they check out as a guest.

* When a user clicks “checkout” without filling in any information, a prompt will show asking if they want to checkout their cart as a “guest” or to enter their login credentials
* If a user clicks “checkout as guest” it will prompt them to the shipping details and billing information page
* If a user enters an incorrect address format, a prompt will appear showing the correct address format and ask them if they want to use that format
* If a user enters incorrect payment details, a prompt will appear informing them that the payment information is incorrect
* Once the user clicks on the “complete checkout” button, a prompt will appear asking them to review the order details
* After reviewing the order and the user clicks “complete checkout” button again, a prompt will show with a message congratulating them for completing the purchase
* Another prompt will appear asking the user if they want to create an account and login information
* If the user clicks “yes” button, it will prompt them to “create an account” page and asked to enter their name, address, email address, and create a username and password; then it will prompt them to the receipt page
* If the user clicks “no” button, it will prompt them to the receipt page
* If a user clicks “log in” button, a prompt will appear to ask them to enter their login credentials (username and password)
* If the user enters the wrong login credential, they will be shown an error message and be prompted to try again
* If the user enters the correct login credential, they will be prompted for a multi-factor authentication and be asked if they want the code to be sent via email or through text message
* Once the user enters the correct code, they will be prompted to the shipping details and billing information page
* If a user enters an incorrect address format, a prompt will appear showing the correct address format and ask them if they want to use that format
* If a user enters incorrect payment details, a prompt will appear informing them that the payment information is incorrect
* Once the user clicks on the “complete checkout” button, a prompt will appear asking them to review the order details
* After reviewing the order and the user clicks “complete checkout” button again, a prompt will show with a message congratulating them for completing the purchase; then it will prompt them to the receipt page
* Think about the following; you may need to make assumptions or decisions about the prompt and how the feature should behave:
  + What should happen if the cart is empty?
* When a user clicks “checkout” and the cart is empty, a message will appear alerting the user that their cart is empty and to add items in order to proceed with the checkout
  + What needs to be shown to the user at each step of check out?
* When a user clicks “checkout” they will be prompted to enter their shipping information (name, address, phone number, email)
* After the user enters their shipping information, they will be prompted to choose the shipping method (standard or express shipping)
* Once the shipping method was chosen, they will be asked to enter their billing/payment method or details (credit or gift card; credit card information – name, number, expiration date, CVV; gift card number and auth code)
* When the user clicks “complete checkout” button, a prompt will appear to ask the user to “review order details”
* When the user clicks “complete checkout” again, it will then prompt them to the checkout process and receipt page with their order number and information
  + What behaviors of this feature does the prompt miss or gloss over?
* If the user does not complete the checkout within a certain amount of time, a prompt will appear to ask if they need more time to complete the purchase
* If the user does not respond to prompt asking them if they need more time to complete the purchase, a prompt will appear informing them that the session has expired or timed out
* If the user has applied an invalid coupon or discount code during checkout, a prompt will appear notifying them that the code is invalid or has expired
* If the user has used a gift card and the balance is insufficient, a prompt will be displayed to indicate insufficient funds and to choose a different type of payment method to complete the checkout
* If the user attempts to create a new login account and enters an email address that has already been used to create an account previously, they will be prompted, informing them that the email address they entered is already associated with an account
* If the user enters an international address:
  + 1. a prompt will appear to inform them international shipping does not apply; or
    2. a prompt will appear to inform them about shipping options and rates;
    3. the price of the items will also change depending on the currency being accepted on the international address entered