### Customer table

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| --- | --- | --- | --- | --- |
| * Test Case | * Purpose | * Input Data | * Expected Output |  |
| * Test Case 1 | * Check a new customer can be added successfully. | * Customer valid details | * New customer is added with given details. |  |
| * Test Case 2 | * Check duplicate email | * Email - "ok@gmail.com" (existing email) | * Error message: email is already registered. |  |
| * Test Case 3 | * Check valid role for customers | * Invalid role | * Error message: role is invalid. |  |

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| --- | --- | --- | --- | --- |
| * Test Case | * Purpose | * Input Data | * Expected Output |  |
| * Test Case 1 | * Check a new product can be added successfully. | * Product details - Description, Image etc. | * New product is added with given details. |  |
| * Test Case 2 | * Check only valid category IDs are accepted for products. | * Invalid ID * (sw345) | * Error message: ID is invalid. |  |
| * Test Case 3 | * Check that products cannot have a negative price. | * Negative price * (-100) | * Error message: price cannot be negative. |  |
| * Test Case 4 | * Check that only valid image URLs are accepted for products. | * Invalid URL for image | * Error message: image URL is invalid. |  |

### Product table

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| --- | --- | --- | --- | --- |
| * Test Case | * Purpose | * Input Data | * Expected Output |  |
| * Test Case 1 | * Check a product can be successfully added to the cart. | * New product to be added | * The product is added to the cart successfully. |  |
| * Test Case 2 | * Check a product can be successfully removed from the cart. | * Product to be removed from the cart | * The product is removed from the cart successfully. |  |
| * Test Case 3 | * Check a customer can be set for the cart. | * Customer to be set for the cart | * The customer for the cart is set successfully. |  |
| * Test Case 4 | * Check the cart ID can be retrieved. | * Cart ID to be retrieved | * The cart ID is successfully retrieved. |  |

### Cart class

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| --- | --- | --- | --- |
| * Test ID | * Purpose | * Input | * Expected Output |
| * Test Case 1 | * Add a valid product to an empty cart | * Valid product i | * Product is added to the cart successfully |
| * Test Case 2 | * Add a valid product to a non-empty cart | * Valid product | * Product is added to the existing products in the cart |
| * Test Case 3 | * Delete a product from a non-empty cart | * Valid product existing | * Product is removed from the cart successfully |
| * Test Case 4 | * Delete the last product from the cart | * Valid last product in list | * Last product is removed from the cart |
| * Test Case 5 | * Set a valid customer for the cart | * Valid customer | * Customer for the cart is set successfully |
| * Test Case 6 | * Get ID for a newly created cart | * --------- | * Cart ID is not null |
| * Test Case 7 | * Set a valid list of products for the cart | * Valid list of product | * List of products in the cart is set successfully |
| * Test Case 8 | * Set an empty list of products for the cart | * Empty list | * Cart has no products |

**Product class**

|  |  |  |  |
| --- | --- | --- | --- |
| * Test ID | * Purpose | * Input | * Expected Output |
| * Test Case 1 | * Create a valid product | * Valid product with all attributes | * Product is created successfully |
| * Test Case 2 | * Update product name | * Valid product with a new name | * Product name is updated successfully |
| * Test Case 3 | * Update product category | * Valid product with a new category | * Product category is updated successfully |
| * Test Case 4 | * Update product quantity | * Valid product with a new quantity | * Product quantity is updated successfully |
| * Test Case 5 | * Update product price | * Valid product with a new price | * Product price is updated successfully |
| * Test Case 6 | * Update product weight | * Valid product with a new weight | * Product weight is updated successfully |
| * Test Case 7 | * Update product description | * Valid product with a new description | * Product description is updated successfully |
| * Test Case 8 | * Set null name for the product | * Valid product with a null name | * Error message: Attempt to set a null name for the product |
| * Test Case 9 | * Set null category for the product | * Valid product with a null category | * Error message: Attempt to set a null category for the product |
| * Test Case 10 | * Set negative quantity for the product | * Valid product with a negative quantity | * Error message: Attempt to set a negative quantity for the product |