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| Use Case No.1 | | | |
| Scenario | Action | Data | Expected Result |
| Good | User starts new session with the system | None | The system presents the customer the purchase menu and an option to enter the login or register menu |
| Sad | the User enters an input which doesn’t match an entry in the current menu | User input | The system presents an appropriate error, reprints the menu and prompts for an input |
| Bad | User starts new session with the system, the server crashes | None | The system will present an appropriate message to the user and meanwhile it tries to reconnect. |

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| Use Case No. 2 | | | |
| Scenario | Action | Data | Expected Result |
| Good | The user asks to exit the program | None | whatThe program gracefully terminates the client’s session. If the user is a guest, the program will delete its data. If the user is a registered user, it will save its data |
| Sad | The user terminates the program ungracefully | None | If the user is a guest, the program will delete its data. If the user is a registered user, it will save its data |
| Bad | The system is terminated | None | The system will recover without any data loss. |

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| Use Case No.3 | | | |
| Scenario | Action | Data | Expected Result |
| Good | The user is in the registration menu and enters an email and a password. | UserID ,Valid email, Valid password | A new user is added to the system with the provided email and password and the system is redirected to the purchase menu. |
| Sad | The user is in the registration menu and enters an email and a password. | UserID, Already in use email, Valid password. | The system alerts the user that the email he entered is already in use. |
| Bad | The user is in the registration menu and enters an empty email address and an empty password. | UserID, Empty password,Empty email | The system alerts the user of invalid parameters by a prompt and redirects him to the registration menu again. |

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| Use Case No.4 | | | |
| Scenario | Action | Data | Expected Result |
| Good | The user is in the login page and enters an email and a password. | UserID, Valid email and matching password. | The system validates the data and redirects the user to the role selection menu. |
| Sad | The user is in the login page and enters an email and a password. | UserID, Valid email and a non matching password of that email address. | The system prompts an error indicating that the credentials are wrong. |
| Bad | The user is in the login page and enters the maximum number of characters for any system input request. | UserID, Max char email, Max char password. | The system prompts an error indicating that the credentials are wrong. |

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| Use Case No.5 | | | |
| Scenario | Action | Data | Expected Result |
| Good | The user asks to view all the stores. | None | The system will display all the stores that exist in the system. |
| Sad | The user asks to search a specific store by name and display the store information. | Shop ID, None existing store name. | The system will prompt an error message indicating that the store which the user selected does not exist. |
| Bad | The user asks to search a specific store by name and enters an empty field in the product search. | Shop ID, Valid store name, invalid name of product. | The system will prompt an error message indicating that the user input is invalid. |

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| Use Case No.6 | | | |
| Scenario | Action | Data | Expected Result |
| Good | The user chooses to search an item by name and enters it in the search bar, then chooses to filter them by price. | Product name | The system displays all the stores that sell the requested product in the specified price. |
| Sad | The user chooses to search a category | Ivalid category name. | The system prompts an error indicating that the searched category doesn't exist. |
| Bad | The user chooses to search an item by name and filter the result by all existing filters. | Sensitive product Name (e.x : drop tables) | The system prompts an error indicating that data is invalid. |

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| Use Case No.7 | | | |
| Scenario | Action | Data | Expected Result |
| Good | The user chooses to add the selected product to its user basket, and enters an amount. | Product ID, Product Name,Amount | The system will add the desired product to the user’s store basket with its specified amount. |
| Sad | The user chooses to add the selected product to its user basket and enters an amount. | Product ID, Product Name, amount that exceeds the amount specified in the store inventory. | The system will prompt an error indicating the chosen amount exceeds the amount of the store. |
| Bad | The user chooses to add the selected product to its user basket and enters an amount. | Product ID, Product Name,a negative product amount. | The system will prompt an error message indicating the data provided is invalid. |

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| Use Case No.8 | | | |
| Scenario | Action | Data | Expected Result |
| Good | The user decides to view his shopping cart and chooses one of its baskets to view. | Basket name | The system displays the chosen basket information with all its products. |
| Sad | The user decides to view his shopping cart and chooses a basket. | Wrong basket name | The system prompts an error message indicating the data is invalid. |
| Bad | The user decides to view his shopping cart and chooses a basket and decides to edit one of the items in the basket, and enters an amount. | Basket name, product name, negative amount | The system will prompt an error message indicating the edit of the item contains invalid data. |

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| Use Case No.9 | | | |
| Scenario | Action | Data | Expected Result |
| Good | The user is shown all its baskets and chooses to buy a specific basket and pays for the basket | Basket name, correct payment info | The system will scan the products of the basket and reduce the amount from the store warehouse, then it will redirect the user to an external payment system, after a successful payment the basket will be removed from the user’s shopping cart and will be in its purchase history. |
| Sad | The user is shown all its baskets and chooses to buy a specific basket. | Invalid basket name | The system will prompt an error message indicating that the provided data is invalid. |
| Bad | The user is shown all its baskets and chooses to buy a specific basket and when asked to pay for the basket he exits the current session. | Basket name, correct payment info | The system will close and revert all the changes to the amount of products in the store’s warehouse. |

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| Use Case No.10 | | | |
| Scenario | Action | Data | Expected Result |
| Good | The user is registered and enters an amount to bid on the item and enters his payment info. | Product ID,Amount, Payment info | The system will ask the user to enter his payment method if it is his first bidding and change the leading bidder to user and alert the previous leading bidder that his bid was outbid. |
| Sad | The user is registered and enters an amount to bid on the item. | Product ID,Amount which is less than the current highest bid. | The system will prompt an error indicating the bidding amount is less than the current highest bid. |
| Bad | The user is registered and enters an amount to bid on the item and exits the session instead of paying. | Product ID,Amount | The system will not consider the user’s bid and maintain its previous state. |

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| Use Case No.11 | | | |
| Scenario | Action | Data | Expected Result |
| Good | An auction end time has elapsed | Product (Product ID),  Customer Payment information | The system will notify the user for winning the auction. Also, the system will charge the customer’s Credit Card for the price of the item and will notify the user for making the charge. After that, the system will add the product to the user purchase history. |
| Sad | An auction end time has elapsed, but the user entered not the correct bank account details. | Product (Product ID), Customer Payment information | The system will try and fail to charge the user's Credit Card. Then it will notify the user for unsuccessful charge attempt |
| Bad | An auction end time has elapsed, and meanwhile the system was unavailable | Product (Product ID),  Customer Payment information | The system when the system will be available, it will check if the auction time has elapsed. In such a case, it will check if the payment for the auction was charged, if not it will charge it and behave as in the “Good case”. |

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| Use Case No.12 | | | |
| Scenario | Action | Data | Expected Result |
| Good | The customer places an offer on a product and the manager receives the notification and accepts the offer. | Shop ID, Product ID, payment information, price. | The system notifies the manager that an offer was placed on an item, the manager views the offer and accepts.  The system charges the user with its payment information, notifies the user of a successful trade and places the item in his purchase history. |
| Sad | The customer places an offer on a product and the manager receives the notification and declines the offer. | Shop ID, Product ID, payment information, price. | The system notifies the manager that an offer was placed on an item, the manager views the offer and declines, the user is notified of the unsuccessful trade |
| Bad | The customer places an offer on a product and the owner of the shop remove the product from sale | Shop ID, Product ID, payment information, price | The system notifies the customer that the product is no longer available |

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| Use Case No.13 | | | |
| Scenario | Action | Data | Expected Result |
| Good | The user enters the biggest and submission price for a product that is = goal price - total submission | Product (Product ID), Shop (Shop ID), payment info, Submission price | The system will charge the user for the submission price. The system will add the product to the purchase history. Then, it will choose randomly the winner from the lottery participants. Finally, it will notify all participants if they won or not. |
| Sad | The user enters a submission price which is bigger than the goal price for the lottery. | Product (Product ID), Shop (Shop ID), payment info, Submission price | The system prompts an error indicating that the amount entered is higher than the goal price. |
| Bad | The user enters a submission price and his payment information and the owner of the shop removes the product. | Product (Product ID), Shop (Shop ID), payment info, Submission price | The system notifies the customer that the product is no longer available |

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| Use Case No.14 | | | |
| Scenario | Action | Data | Expected Result |
| Good | The goal price is reached before the end time. | User IDs,  Product (Product ID) | The system notifies all the users who participated in the lottery that the goal price was reached and whether they won the lottery and adds the product to all the participants’ purchase history. |
| Sad | None | None | None |
| Bad | The system is unavailable while the end time has elapsed. | User IDs,  Product (Product ID) | The manager will be notified and all the participants will be refunded and notified. |

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| Use Case No.15 | | | |
| Scenario | Action | Data | Expected Result |
| Good | A logged in user asks to logout (while in the purchase menu) | None | The system will log the user out, save the session’s data, and present the purchase menu again. |
| Sad | None | None | None |
| Bad | A guest user asks to log out (without ever logging in) | None | The system will display a message saying in order to log out you must first log in, and display the purchase menu. |

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| Use Case No.16 | | | |
| Scenario | Action | Data | Expected Result |
| Good | A user asks to open a new store and enters all the required fields legally. | Store name, Discount policies, Purchase policies, Bank account, Payment information. | The system creates the store, assigns the customer as it’s original owner and redirects the user to the store management menu. |
| Sad | A user asks to open a new store but accidentally doesn’t insert the last digit of his bank account number. | Store name, Discount policies, Purchase policies, Illegal bank account, Payment information. | The system shows an error regarding the length of a legal bank account number and lets the user re-enter the information. |
| Bad | A user asks to open a new store but enters an empty store name. | Empty store name, Discount policies, Purchase policies, Bank account, Payment information. | The system shows an error regarding an empty store name and lets the user re-enter the information. |

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| Use Case No.17 | | | |
| Scenario | Action | Data | Expected Result |
| Good | A user asks to view his purchase history. | None | The system presents a list of the user’s previous purchases. |
| Sad | A user asks to view his purchase history but he has none. | None | The system will present a message saying the user has yet to make any purchases. |
| Bad | None | None | None |

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| Use Case No.18 | | | |
| Scenario | Action | Data | Expected Result |
| Good | A store manager/owner adds a product to his store. | Product name, purchase type, amount, price, category, description, Shop id | The system adds the product to the appropriate store. |
| Sad | A store manager/owner adds a product to his store but enters a purchase type that does not exist in that store | Product name, purchase type, amount, price, category, description, Shop id | The system presents an error regarding the store’s available purchase types, and lets the user re enter the data. |
| Bad | A user tries to add a product to a store he doesn’t have the permissions to. | Product name, purchase type, amount, price, category, description, Shop id | The system presents an error regarding the user’s permissions and reprints the menu. |

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| Use Case No.19 | | | |
| Scenario | Action | Data | Expected Result |
| Good | A manager/owner asks to remove a product from his store. | Product ID | The system removes the product from the store and reprints the menu. |
| Sad | A manager/owner asks to remove a product from his store but the product ID he provides is invalid | Product ID | the system presents an error regarding the illegal product ID and reprints the menu. |
| Bad | A user asks to remove a product from a store he does not have permissions to. | Product ID | The system presents an error regarding the user’s permissions and reprints the menu. |

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| Use Case No.20 | | | |
| Scenario | Action | Data | Expected Result |
| Good | An owner/manager with permissions asks to add a store purchase policy | Purchase policy | The system will add the policy to the store and reprint the menu. |
| Sad | The owner or manager type incorrectly the purchase policy details | Purchase policy | The system will show appropriate message to the actor |
| Bad | A user asks to add a store purchase policy from a store he does not have permissions to. | Purchase policy | The system presents an error regarding the user’s permissions and reprints the menu. |

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| Use Case No.21 | | | |
| Scenario | Action | Data | Expected Result |
| Good | An owner/manager with permissions asks to add a store discount policy | Discount policy | The system will add the policy to the store and reprint the menu. |
| Sad | The owner or manager type incorrectly the discount policy details | Discount policy | The system will show appropriate message to the actor |
| Bad | A user asks to add a store discount policy from a store he does not have permissions to. | Discount policy | The system presents an error regarding the user’s permissions and reprints the menu. |

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| Use Case No.22 | | | |
| Scenario | Action | Data | Expected Result |
| Good | An owner/manager with permissions asks to add a store purchase type | Purchase type | The system will add the purchase type to the store and reprint the menu. |
| Sad | An owner/manager with permissions asks to add a store purchase type but the store already has that purchase type | Purchase type | The system presents an error saying this purchase type already exists and reprints the menu. |
| Bad | A user asks to add a store purchase type from a store he does not have permissions to. | Purchase type | The system presents an error regarding the user’s permissions and reprints the menu. |

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| Use Case No.23 | | | |
| Scenario | Action | Data | Expected Result |
| Good | An owner/manager with permissions asks to add a store discount type | Discount type | The system will add the policy to the store and reprint the menu. |
| Sad | The owner or manager tries to add a discount type that is not in the discount policy of the shop | Discount type | The system will show appropriate message to the actor |
| Bad | A user asks to add a store discount type from a store he does not have permissions to. | Discount type | The system presents an error regarding the user’s permissions and reprints the menu. |

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| Use Case No.24 | | | |
| Scenario | Action | Data | Expected Result |
| Good | An owner of a shop chooses a registered user and promotes him to be an owner. | Valid shop id, Valid registered user id. | The chosen user became an owner of the shop. |
| Sad | An owner of a shop chooses a registered user and promotes him to be an owner. | Valid shop id, registered user id that’s already an owner of this shop. | The system prompts an error indicating that the input user is already an owner of the shop. |
| Bad | A user chooses a registered user and promotes him to be an owner. | Shop id that the user isn’t the owner of this shop, registered user id. | The system prompts an error indicating the user isn’t the owner of this shop. |

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| Use Case No.25 | | | |
| Scenario | Action | Data | Expected Result |
| Good | An owner of a shop chooses a register user and promotes him to be a manager. | Valid shop id, Valid registered user id. | The chosen user became a manager of the shop. |
| Sad | An owner of a shop chooses a register user and promotes him to be a manager. | Valid shop id ,registered user id that’s already a manager or an owner of the shop. | The system prompts an error indicating the user is already a manager or an owner of this shop. |
| Bad | A user chooses a register user and promotes him to be a manager. | Shop id that the user isn’t the owner of this shop, registered user id. | The system prompts an error indicating the user isn’t the owner of this shop. |

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| Use Case No.26 | | | |
| Scenario | Action | Data | Expected Result |
| Good | An owner of a shop sets or modifies management permissions for a manager that he promoted. | Valid registered user id, permissions. | The permissions of the chosen manager has been modified. |
| Sad | An owner of a shop sets or modifies management permissions for a manager that he promoted. | Valid registered user id, permissions that already exist. | The system won’t change a thing. |
| Bad | An owner of a shop sets or modifies management permissions for a manager that he promoted. | a manager that wasn't promoted by the user, permissions. | The system prompts an error indicating that the manager wasn't promoted by the owner. |

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| Use Case No.27 | | | |
| Scenario | Action | Data | Expected Result |
| Good | An owner of a shop tries to remove a manager of that shop | Owner (User ID), Manager (User ID), Shop (Shop ID) | The system will remove the manager of that shop, it will delete his permissions. The system will end any session the manager had in the system. |
| Sad | An owner of a shop tries to remove a user that is not a manager of that shop | Owner (User ID), User to remove (User ID), Shop (Shop ID) | The system will not apply the changes, and will alert the owner that this user is not a manager. |
| Bad | A registered user that is not owner of a shop tries to remove a user that is a manager of that shop | Actor (User ID), Manager (User ID), Shop (Shop ID) | The system will not apply the changes and will alert the user that he doesn’t have the permission to do this action. |

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| Use Case No.28 | | | |
| Scenario | Action | Data | Expected Result |
| Good | Manager with store management information permission or Owner, he wants to watch the shop's information | Manager or Owner (User ID), Shop (Shop ID) | The system will display to the actor the information of the shop |
| Sad | A user that is not an owner nor a manager of a shop with store management information permission, he wants to watch the shop's information | Manager (User ID),  Shop (Shop ID) | The system will display an error message that he doesn’t have the necessary permissions |
| Bad | Manager without store management information permission, he wants to watch the shop's information | Manager (User ID),  Shop (Shop ID) | The system will display an error message that he doesn’t have the necessary permissions |

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| Use Case No.29 | | | |
| Scenario | Action | Data | Expected Result |
| Good | An owner or manager requests a purchase history of one of their shops. | Valid shop id. (in the use case there’s none parameters) | The system will display the purchase history of the shop. |
| Sad | An owner or manager requests a purchase history of one of their shops. | Non existing shop id. (in the use case there’s none parameters) | The system will prompt an error indicating the shop doesn’t exist. |
| Bad | A user that isn’t an owner or manager. | Valid shop id. (in the use case there’s none parameters) | The system prompts an error indicating the user isn’t an owner or a manager. |

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| Use Case No.30 | | | |
| Scenario | Action | Data | Expected Result |
| Good | An admin wants to watch a purchase history of a specific user | Admin (User ID),  Observed User (User ID) | The system will present to the admin the user’s purchase history |
| Sad | An admin wants to watch a purchase history of a non existing user | Admin (User ID),  non existing User (User ID) | The system will present to the admin an error message that that user is not existing in the system |
| Bad | A non admin user wants to watch a purchase history of other a specific user | Non Admin (User ID),  Observed User (User ID) | The system will present to the user an error message that he is not authorized to do this. |

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| Use Case No.31 | | | |
| Scenario | Action | Data | Expected Result |
| Good | The admin requests the purchase history of a specific shop. | Valid shop ID. | The system will display the purchase history of the shop. |
| Sad | The admin requests the purchase history of a specific shop. | Non existing shop ID. | The system will prompt an error indicating the shop doesn’t exist. |
| Bad | A user that isn’t the admin requests the purchase history of a specific shop. | Valid shop ID. | The system will prompt an error indicating the user isn’t the admin. |