

	Summary of Encountered Bugs	Test Cases Uncovering These Bugs	Root Causes and Solutions
1	When enter a password contain number and character, the front-end should mark it as valid, but the front end return error message.	01, 02	The logic of front-end password validation is wrong. Solving by modified the front-end logic.
2	The user should be able to see the main square after login, but the page refreshed.	16	User authentication failed. Solving by import flask_login package.
3	Only names contain "yellow pen" will show, while we want items like "yellow thin pen" also show. Inanother word, multiple keywords is not allowed.	43	The logic of back-end is undeveloped. Solving by modify the back-end logic for allowing multiple keyword searching.
4	The front-end failled to ensure user put a integer bigger than current balance. When user put characters the front sent the message to back-end.	32	The logic of front-end input validation is wrong. Solving by modified the front-end logic to integer
5	The front-end failled to ensure user put a integer bigger than current balance. When user put float the front sent the message to back-end.	33	The logic of front-end input validation is wrong. Solving by modified the front-end logic to integer
6	Bid success when current balance is 1000 and bid 10000.	37	The logic of back-end is undeveloped. Solving by modify the back-end logic for check the currenent balance from database.
7	After clicking the bid button, the web page went wrong, nothing display on the page, the price in database haven't change.	39	The logic of back-end is undeveloped. Solving by modify the back-end logic for returning the new price and refresh the page.

8	The webpage display nothing for admin. When the admin click the verify button, there should be a success message and the status of item02 change in the database. But the system gave no reaction.	46, 47	The front-end failed to connect with the back-end. There is a field mismatch. Solvnig by matching their names.
9	When admin end an auction, the balance of the user who bided the highest price should be decrease by that price, but the back-end failed to do so.	48	The logic of back-end is undeveloped. Solving by modify the back-end logic for decreasing the balance from database.