Type to answers to these questions and submit this document along with the other required information

1. Did you do this? If not what did you do? A working GUI tkinter application with at least two windows.   50 points – **NB:YES, I have a working GUI application with multiple windows – main window, view catalog, create order, enter credit card info and help windows (with multiple windows). It does require a virtual environment (venv) and installation of pip and Pillow (PIL updated) to work properly.**
2. Did you do this? If not what did you do? Implementing a modular approach in your application. 5 points **NB: YES the program is very modular, with multiple classes and def methods for each function. I used the rule of cohesion to keep functions small, focused and single-task oriented.**
3. Did you do this? If not what did you do? Consistent clear navigation throughout the GUI application.   10 points **Note: The program has clear navigation with buttons to open windows and a logical sequence to enter data in a step-by-step manner. To exit an application there are quit buttons and close x (upper right corner). To pick an item a spinner is used to select the quantity. To enter the order press the submit order button.**
4. Did you do this? If not what did you do? Use at least two images in your application(images should have alternate text).  10 points **NB: I used multiple images for the front page and the store items at least 20 images stored in image folder and logoimage folder.**
5. Did you do this? If not what did you do? Include at least three labels. 10 points **NB: YES labels are used throughout including name, address, email, phone number, and credit card information.**
6. Did you do this? If not what did you do? Include at least three buttons. 10 points **NB: there are multiple buttons on the front page to navigate to other pages (windows) and several buttons on each page. The help page includes 10 buttons for each topic.**
7. Did you do this? If not what did you do? Include at least three call back function with each button, including exit button. 15 points **NB: quit program buttons are included in front page (first window) as well as catalog and help windows.**
8. Did you do this? If not what did you do? Implement secure coding best practices, including input validation to check if the user entered the correct data type, make sure the entry box is not empty, etc.   10 points **NB: several input validation schemes are used including credit card number validation, card expiration date, and name/address validation on order entry page**.
9. Did you do this? If not what did you do? Validation testing - 20 points.  Develop an appropriate set of test data to fully validate the program against.
   * the data sets you tested against.
   * a brief written explanation of the results of your tests and what you had to fix.
   * screen shots of your good test data working.

**NB: this will be included in the appendix**

1. Did you do this? If not what did you do? User manual creation - 20 points.  You will write and submit a User's manual for your final project and submit it according to the instructions in the attached file. **NB: user manual created and included. Name is: finalprojectdocument-blizard**
2. Did you do this? If not what did you do? Documentation of source code - 15 points.  You will fully document (comment) the corrected Python tkinter source code with appropriate comments including: **NB: source code is thoroughly documents throughout with imbedded comments, including explanation of the purpose of each module and variable.**

* A brief explanation of the purpose of each module (Sub) at the beginning of each Sub. (A header's comment)
* Explanation of the purpose of each variable where it is declared. (An end line comment)
* Line by line, or at least section by section comments within the code, explaining what the line/section does.

1. Did you do this? If not what did you do? The link of the GitHub repository for your final project. 10 points **NB: github repository name:**

**https://github.com/normc812/sdev140-final-project**

1. Did you do this? If not what did you do? Requirements Document submission (25 points) **NB: requirements document (this document): name:**

**Requirements Document For Project - Blizard - Spring1 2025**

# Appendix – input data sets and validation tests

## Main Window

A screenshot of a phone

AI-generated content may be incorrect.

## Help Topics Windows

A screenshot of a computer

AI-generated content may be incorrect.

## Store Catalog Items (item by item)

A screen shot of a bag

AI-generated content may be incorrect.

## Display Entire Catalog

A screenshot of a computer

AI-generated content may be incorrect.

## Enter Credit Card Information Before Placing Order

A screenshot of a computer

AI-generated content may be incorrect.

## Enter Valid Credit Card Information:

A screenshot of a computer

AI-generated content may be incorrect.

## Enter Order and Submit for Invoice:

A screenshot of a computer

AI-generated content may be incorrect.