

CS 5007 Individual Project Assignment 4 (100 Points)

Due: 11:59 p.m. on 11/12/2021

Project Objective: The goal of this project is to demonstrate your proficiency with the tkinter graphics library by constructing a GUI for a simple form consisting of several different widgets.

Project Deliverables:

1. Submit your **.py** file to Canvas.
2. Provide the clear **comment documentations** to your code.

Note:

- (1) This project is to be done by each student individually. No help besides the textbook, materials, and the instructor should be taken. Copying any answers or part of answers from other sources (including your classmates) will earn you a grade of zero.*
- (2) All programming conventions mentioned in class should be followed.*
- (3) You should test your program before submitting.*
- (4) Your program must be developed and implemented in the PyCharm IDE, or 10% of the graded score is deducted.*
- (5) Assignments are accepted in their assigned Canvas drop box without penalty if they are received by 11:59PM EST on the due date, or 10% of the graded score is deducted for the late submission per day. Work submitted after one week of its original due date will not be accepted.*

Task:

You will create a GUI that looks and functions like mine. An image is shown below and a video of how the components resize has been provided. This GUI is a mix between a standard registration form and a survey. The goal is to combine all graphic examples (widgets, frames, resizing, and event handling) into a single file. **This can be used as a reference in the future when creating small applications.**

Event Handling:

- Entry and Text fields: Print the text in the Pycharm output box after pressing the “Enter” key
- Password field: Print the password in the Pycharm output box after pressing the “Enter” key
- Combobox: Prints out the choice in the Pycharm output box when a choice has been selected
- Radio buttons: Prints out what the choice is in the Pycharm output box and if it is yes/no, when a radio button has been selected
- Check buttons: Prints out what the choice is in the Pycharm output box and if it has just been selected or deselected, when the check button has been either selected or deselected
- Submit / Cancel buttons: Prints out which button has been clicked in the Pycharm output box when the left mouse button is released

Notes

- **There may be differences between operating systems and how the UI looks, this is okay.**
- The color choices for the combobox are listed below.
["Red", "Orange", "Yellow", "Green", "Blue", "Violet", "Pink", "White", "Black"]
- The combobox should display starting at the first choice.
- All combobox choices should appear in the list without having to scroll
- There will be several frames. To get the frames to resize correctly you will have to use the “sticky” option as well as the rowconfigure function and columnconfigure function.
- Each frame has a border. Although it looks funny, it is meant to help you with setting up the frames and visualizing where the frames are. The border colors can be your choice.
- The fonts for the labels are Times New Roman 12 point for the main labels and 10-point font for the “Updates” and “Notification Emails”.
- All radio buttons are initialized to off.
- All check boxes are initialized to off.
- The radio buttons under “Updates” are mutually exclusive
- The radio buttons under “Notification Emails” are mutually exclusive
- The Text widget is vertically scrollable
- The Text widget has a height of 10 and a width of 50
- The Text widget has word wrap enabled

The image shows a Tkinter window titled "tk" with a standard macOS-style title bar (close, zoom, and quit buttons). The window contains a form with the following elements:

- User Name:** A text input field.
- First Name:** A text input field.
- Last Name:** A text input field.
- Password:** A text input field.
- Favorite Color:** A combobox menu currently displaying "Red".
- Account Options:** A label for a section containing two sub-sections:
 - Updates:** Two radio buttons labeled "Yes" and "No".
 - Notification Emails:** Two radio buttons labeled "Yes" and "No".
- Sports (like to watch):** Four checkboxes labeled "Baseball", "Basketball", "Football", and "Hockey".
- Other Comments:** A large, vertically scrollable text area.
- Buttons:** Two buttons at the bottom labeled "Submit" and "Cancel".

Colored rectangular frames are overlaid on the form to highlight specific areas: a pink frame around the top section (User Name to Favorite Color), a cyan frame around the middle section (Account Options and Sports), a green frame around the Sports checkboxes, a red frame around the Other Comments text area, and a blue frame around the Submit and Cancel buttons.

tk

User Name: cngan

First Name: Ben

Last Name: Ngan

Password: *****

Favorite Color: Blue

Account Options: Updates: Notification Emails: ☒ Yes ☐ No ☐ Yes ☒ No

Sports (like to watch): ☐ Baseball ☒ Basketball ☒ Football ☐ Hockey

Other Comments:
Welcome to join this course. Hope that you have had a wonderful time with me in the classes.

Submit Cancel

Text entered = cngan

Text entered = Ben

Text entered = Ngan

Text entered = password

Selected = Blue

Receive updates = Yes

Receive emails = No

Football is selected

Basketball is selected

Text entered = Welcome to join this course. Hope that you have had a wonderful time with me in the classes.

Submit clicked

Cancel clicked

Grading Criteria:

Checkpoint:	Possible Points
Proper Naming Conventions	5
Program Documentation	5
Individual Widget Components	20
Component Functionality	20
GUI and Component Resizing	15
Event Handling	15
GUI Positioned at the Center of any Screen	10
Correct Above Sample Program Outputs	10
Total	100