

Experiment No. 8

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Creating GUI with python containing widgets such as labels, textbox, radio, checkboxes and custom dialog boxes

Date of Performance:

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Experiment No. 8

Title: Creating GUI with python containing widgets such as labels, textbox, radio, checkboxes and custom dialog boxes

Aim: To study and create GUI with python containing widgets such as labels, textbox, radio, checkboxes and custom dialog boxes

Objective: To introduce GUI, TKinter in python

Theory:

Python offers multiple options for developing GUI (Graphical User Interface). Out of all the GUI methods, tkinter is the most commonly used method. It is a standard Python interface to the Tk GUI toolkit shipped with Python. Python with tkinter is the fastest and easiest way to create the GUI applications. Creating a GUI using tkinter is an easy task.

To create a tkinter app:

Importing the module – tkinter

Create the main window (container)

Add any number of widgets to the main window

Apply the event Trigger on the widgets.

Importing tkinter is same as importing any other module in the Python code. Note that the name of the module in Python 2.x is 'Tkinter' and in Python 3.x it is 'tkinter'.

Code:

Creating GUI with python containing widgets such as labels, textbox, radio, checkboxes and custom dialog boxes



```
from tkinter import *

master = Tk()

master.geometry("175x175")

v = StringVar(master,"1")

values = {"Yash" : "1",

"Kanishk" : "2",

"Bhavik" : "3",

"Dhruti" : "4",

"Priyanka" : "5"}

for (text, value) in values.items():

Radiobutton(master, text = text, variable = v,

value = value, indicator = 0,

background = "light blue").pack(fill = X, ipady = 5)

mainloop()
```

Output:





Code:

import tkinter as tk

from tkinter import messagebox

def submit():

```
# Retrieve data from entry fields
first_name = first_name_entry.get()
last_name = last_name_entry.get()
title = title_var.get()
age = age_spinbox.get()
nationality = nationality_var.get()
registration_status = registration_status_var.get()
completed_courses = completed_courses_var.get()
semesters = semesters_var.get()
terms_accepted = terms_accepted_var.get()
```



Display submitted data

```
messagebox.showinfo("Submitted", f"User Information:\nFirst Name: {first name}\nLast
Name: \{last\_name\}\nTitle: \{title\}\nAge: \{age\}\nNationality: \{nationality\}\n\nRegistration\}
                                               Courses:
           {registration_status}\nCompleted
                                                            {completed_courses}\nSemesters:
Status:
{semesters}\n\nTerms Accepted: {terms_accepted}")
# Create main window
root = tk.Tk()
root.title("Student Data Entry Form")
# User Information Section
user_info_frame = tk.LabelFrame(root, text="User Information")
user_info_frame.pack(padx=10, pady=10, fill=tk.BOTH, expand=True)
# Labels and Entry fields in the same row
first_name_label = tk.Label(user_info_frame, text="First Name:")
first_name_label.grid(row=0, column=0, padx=5, pady=5)
first_name_entry = tk.Entry(user_info_frame)
```

first_name_entry.grid(row=0, column=1, padx=5, pady=5)



```
last_name_label = tk.Label(user_info_frame, text="Last Name:")
last_name_label.grid(row=0, column=2, padx=5, pady=5)
last_name_entry = tk.Entry(user_info_frame)
last_name_entry.grid(row=0, column=3, padx=5, pady=5)
title_label = tk.Label(user_info_frame, text="Title:")
title_label.grid(row=0, column=4, padx=5, pady=5)
title_var = tk.StringVar()
title_options = ["Mrs", "Ms"]
title_dropdown = tk.OptionMenu(user_info_frame, title_var, *title_options)
title_dropdown.grid(row=0, column=5, padx=5, pady=5)
# Age and Nationality Section
age_nationality_frame = tk.LabelFrame(root, text="Age and Nationality")
age_nationality_frame.pack(padx=10, pady=10, fill=tk.BOTH, expand=True)
age_label = tk.Label(age_nationality_frame, text="Age:")
age_label.grid(row=0, column=0, padx=5, pady=5)
```



```
age_spinbox = tk.Spinbox(age_nationality_frame, from_=0, to=120)
age_spinbox.grid(row=0, column=1, padx=5, pady=5)
age_spinbox.delete(0, "end")
age_spinbox.insert(0, "73")
nationality label = tk.Label(age nationality frame, text="Nationality:")
nationality_label.grid(row=0, column=2, padx=5, pady=5)
nationality_var = tk.StringVar()
nationality_options = ["India", "USA", "UK", "Canada", "Australia", "Other"]
nationality_dropdown
                                  tk.OptionMenu(age_nationality_frame,
                                                                              nationality_var,
*nationality_options)
nationality dropdown.grid(row=0, column=3, padx=5, pady=5)
# Registration Section
registration_frame = tk.LabelFrame(root, text="Registration")
registration_frame.pack(padx=10, pady=10, fill=tk.BOTH, expand=True)
# Labels and input elements in the same row
registration_status_label = tk.Label(registration_frame, text="Registration Status:")
```



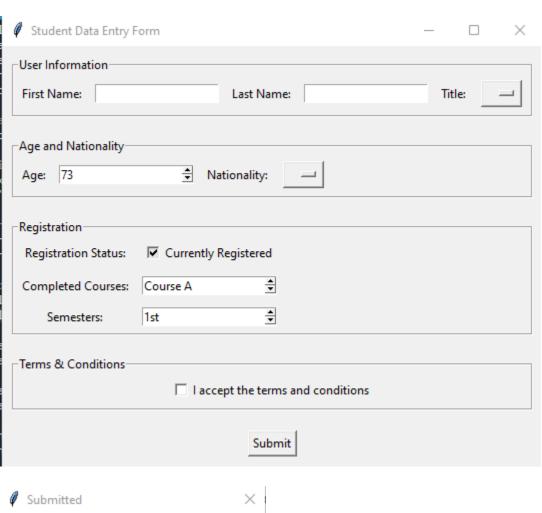
```
registration_status_label.grid(row=0, column=0, padx=5, pady=5)
registration_status_var = tk.StringVar()
registration status checkbox = tk.Checkbutton(registration frame, text="Currently Registered",
variable=registration_status_var)
registration status checkbox.grid(row=0, column=1, padx=5, pady=5)
completed_courses_label = tk.Label(registration_frame, text="Completed Courses:")
completed courses label.grid(row=1, column=0, padx=5, pady=5)
completed_courses_var = tk.StringVar(root)
completed_courses_var.set("Select Course")
completed courses options = ["Course A", "Course B", "Course C", "Course D", "Course E"]
completed courses spinbox
                                                               tk.Spinbox(registration frame,
values=completed_courses_options)
completed courses spinbox.grid(row=1, column=1, padx=5, pady=5)
semesters_label = tk.Label(registration_frame, text="Semesters:")
semesters_label.grid(row=2, column=0, padx=5, pady=5)
semesters var = tk.StringVar(root)
semesters_var.set("Select Semester")
```

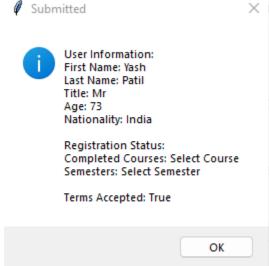


Output:

```
semesters_options = ["1st", "2nd", "3rd", "4th", "5th"]
semesters_spinbox = tk.Spinbox(registration_frame, values=semesters_options)
semesters_spinbox.grid(row=2, column=1, padx=5, pady=5)
# Terms & Conditions Section
terms_frame = tk.LabelFrame(root, text="Terms & Conditions")
terms frame.pack(padx=10, pady=10, fill=tk.BOTH, expand=True)
terms_accepted_var = tk.BooleanVar()
terms_accepted_checkbox = tk.Checkbutton(terms_frame, text="I accept the terms and
conditions", variable=terms_accepted_var)
terms_accepted_checkbox.pack(padx=5, pady=5)
# Submit Button
submit_button = tk.Button(root, text="Submit", command=submit)
submit_button.pack(padx=10, pady=10)
# Run the main event loop
root.mainloop()
```







Conclusion:



GUI package TKinter has been studied and implemented.