



Vidyavardhini's College of Engineering & Technology

Department of Computer Engineering

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:
Date of Submission:



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,checkboxesand 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()
```



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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 Status: {registration_status}\nCompleted Courses: {completed_courses}\nSemesters: {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)
```



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```
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)
```



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```
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:")
```



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```
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")
```




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```
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()
```

Output:



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Student Data Entry Form

User Information

First Name: Last Name: Title:

Age and Nationality

Age: Nationality:

Registration

Registration Status: ☒ Currently Registered

Completed Courses:

Semesters:

Terms & Conditions

☐ I accept the terms and conditions

Submit

Submitted

i User Information:
First Name: Yash
Last Name: Patil
Title: Mr
Age: 73
Nationality: India

Registration Status:
Completed Courses: Select Course
Semesters: Select Semester

Terms Accepted: True

OK

Conclusion:



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GUI package TKinter has been studied and implemented.