Task 1: Simple Registration Form Using Tkinter in Python

Problem Statement: You will be responsible for creating a basic registration form using Tkinter library in Python. The form should include fields such as name, email, age, etc. This task will help you grasp the fundamentals of GUI development.

Code Explanation

- Importing the Tkinter module

```
import tkinter as Tk
from tkinter import messagebox
```

  - *tkinter* is standard Python library for creating Graphical User Interface (GUIs).
  - *messagebox* is submodule of Tkinter used for displaying pop-up message boxes.

- Defining the *register* function

```
def register():
    name=name_entry.get()
    email=email_entry.get()
    age=age_entry.get()
    gender=gender_entry.get()

    if (name and email and age and gender):
        try:
            age = int(age)         # To validate that age is a number
            messagebox.showinfo("Registration",f"Name: {name}\nEmail:
{email}\nAge: {age}\nGender: {gender}")
        except ValueError:
            messagebox.showerror("Error","Please enter valid age")
    else:
        messagebox.showerror("Error", "PLease fill in all the details")
```

  - **name = name_entry.get():** Retrieves the text entered by the user in *Name* field.
  - **email=email_entry.get():** Retrieves the text entered by the user in *email* field.
  - **age=age_entry.get():** Retrieves the text entered in the *Age* field.
  - The code checks if all the fields are filled by the user by the line ***"if name and email and age and gender".***
  - The code checks if the user has entered numeric age value by checking if the text entered can be converted into integer type.
  - If all the fields are filled correctly, a message box displays the entered information.

- Creating the main window

```
root = Tk.Tk()
root.title("Registration Form")
```

  - ***root = Tk.Tk()*** creates the main application window
  - ***root.title("Registration Form")*** sets the title of the window

- Adding the labels and fields to the window

```
name = Tk.Label(root, text="Name: ")
name.grid(row=0,column=0,padx=5,pady=5)
name_entry = Tk.Entry(root)
name_entry.grid(row=0,column=1,padx=5,pady=5)

email = Tk.Label(root, text="Email: ")
email.grid(row=1,column=0,padx=5,pady=5)
email_entry = Tk.Entry(root)
email_entry.grid(row=1,column=1,padx=5,pady=5)

age = Tk.Label(root, text="Age: ")
age.grid(row=2,column=0,padx=5,pady=5)
age_entry = Tk.Entry(root)
age_entry.grid(row=2,column=1,padx=5,pady=5)

gender = Tk.Label(root,text="Gender: ")
gender.grid(row=3,column=0,padx=5,pady=5)

gender_entry = Tk.StringVar(root)
gender_entry.set("Male")

male = Tk.Radiobutton(root, text="Male",variable=gender_entry,value="Male")
male.grid(row=3,column=1,padx=5,pady=5,sticky='w')

female = Tk.Radiobutton(root, text="Female", variable=gender_entry,
value="Female")
female.grid(row=3, column=2,padx=5,pady=5,sticky='w')

submit = Tk.Button(root, text="Submit", command=register)
submit.grid(row=4,columnspan=2,padx=5,pady=5)
```

  - **Label()** creates a label in the window
  - **Entry()** creates a text input field
  - **grid()** is used to place the label in the window using different attributes as mentioned
    - ***'row='*** is used to specify the label position in x-direction
    - ***'column='*** is used to specify the label position in y-direction
    - **'padx='** is used to define the x-padding in the label
    - **'pady='** is used to define the y-padding in the label

- **Closing the application window**

```
Tk.mainloop()
```

  - **mainloop()** is used to close the application window.
  - If it is not mentioned in the code, the application window is not shown when the code is run.