EXPERIMENT 3

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AIM:

The aim is to develop and compare Command Line Interface (CLI), Graphical User Interface (GUI), and Voice User Interface (VUI) for the same task, and assess user satisfaction using Python (with Tkinter for GUI and Speech Recognition for VUI) and Terminal.

PROCEDURE:

i) CLI (Command Line Interface)

CLI implementation where users can add, view, and remove tasks using the terminal.

```
tasks = [] def add_task(task):

tasks.append(task)

print(f"Task '{task}' added.")


def view_tasks():
if tasks:
    print("Your tasks:")        for idx,
task in enumerate(tasks, 1):
        print(f"{idx}. {task}")
  else:
    print("No tasks to show.")
```

```python
def remove_task(task_number):
    if 0 < task_number <= len(tasks):
        removed_task = tasks.pop(task_number - 1)
        print(f"Task '{removed_task}' removed.")
    else:
        print("Invalid task number.")


def main():
    while True:
        print("\nOptions: 1.Add Task 2.View Tasks 3.Remove Task 4.Exit")
        choice = input("Enter your choice: ")

        if choice == '1.':
            task = input("Enter task: ")
            add_task(task)
        elif choice == '2.':
            view_tasks()
        elif choice == '3':
            task_number = int(input("Enter task number to remove: "))
            remove_task(task_number)
        elif choice == '4':
            print("Exiting...")
            break
        else:
            print("Invalid choice. Please try again.")


if __name__ == "__main__":
    main()
```

OUTPUT:

ii) GUI (Graphical User Interface)

 Tkinter to create a simple GUI for our To-Do List application.

import tkinter as tk from tkinter import messagebox

tasks = []

def add_task():

   task = task_entry.get()

if task:

     tasks.append(task)

task_entry.delete(0, tk.END)

update_task_list()   else:

     messagebox.showwarning("Warning", "Task cannot be empty")

def update_task_list():

   task_list.delete(0, tk.END)

for task in tasks:

   task_list.insert(tk.END, task)

```python
def remove_task():
    selected_task_index = task_list.curselection()
    if selected_task_index:

        task_list.delete(selected_task_index)

tasks.pop(selected_task_index[0]) app =

tk.Tk() app.title("To-Do List")

task_entry = tk.Entry(app, width=40) task_entry.pack(pady=10)

add_button = tk.Button(app, text="Add Task", command=add_task)

add_button.pack(pady=5)


remove_button = tk.Button(app, text="Remove Task", command=remove_task)

remove_button.pack(pady=5)


task_list = tk.Listbox(app, width=40, height=10)

task_list.pack(pady=10) app.mainloop()
```

OUTPUT:

To-Do List

Running

Add Task

Remove Task

To-Do List

Add Task

Remove Task

Running
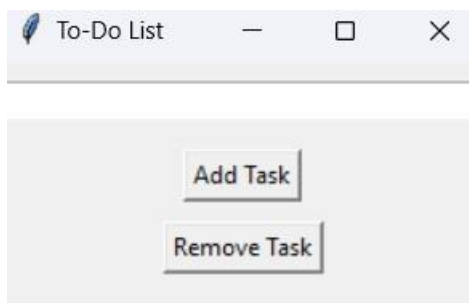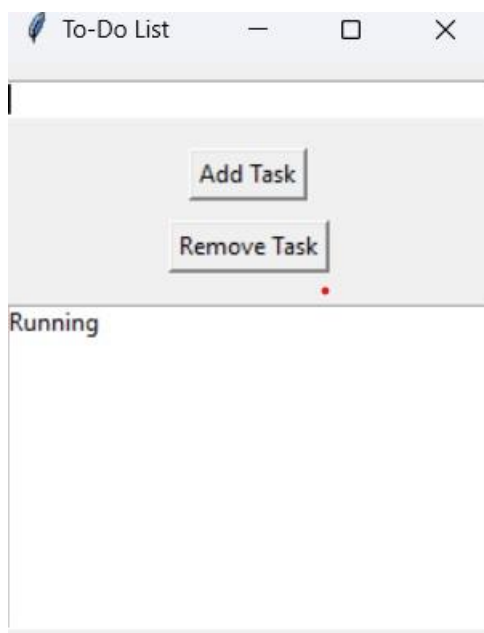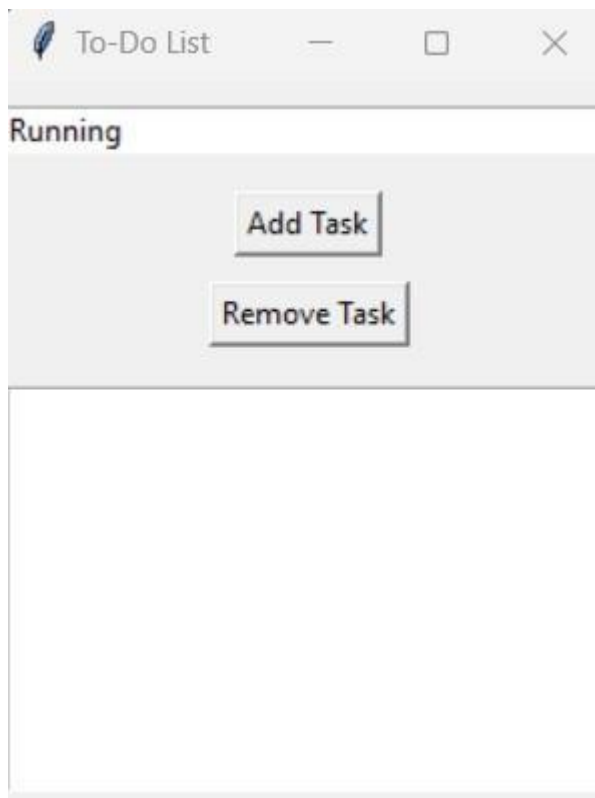
iii) VUI (Voice User Interface)

```python
import speech_recognition as sr
import pyttsx3


tasks = []   recognizer =
sr.Recognizer()   engine =
pyttsx3.init()


def add_task(task):
tasks.append(task)
engine.say(f"Task {task} added")
engine.runAndWait()


def view_tasks():
if tasks:
    engine.say("Your tasks are")
for task in tasks:
engine.say(task)    else:
    engine.say("No tasks to show")
engine.runAndWait()


def remove_task(task_number):
  if 0 < task_number <= len(tasks):
```

```python
        removed_task = tasks.pop(task_number - 1)
        engine.say(f"Task {removed_task} removed")    else:
        engine.say("Invalid task number")
    engine.runAndWait()


def recognize_speech():    with
sr.Microphone() as source:
        print("Listening...")        audio =
recognizer.listen(source)        try:
            command = recognizer.recognize_google(audio)
        return command        except sr.UnknownValueError:
            engine.say("Sorry, I did not understand that")
        engine.runAndWait()            return None


def main():
    while True:
        engine.say("Options: add task, view tasks, remove task, or exit")
        engine.runAndWait()


        command = recognize_speech()
        if not command:
            continue


        if "add task" in command:
            engine.say("What is the task?")
```

```python
        engine.runAndWait()        task =
recognize_speech()        if task:
            add_task(task)        elif
"view tasks" in command:
view_tasks()        elif "remove task"
in command:
        engine.say("Which task number to remove?")
engine.runAndWait()        task_number =
recognize_speech()        if task_number:
            remove_task(int(task_number))
elif "exit" in command:
engine.say("Exiting...")
engine.runAndWait()        break
else:
        engine.say("Invalid option. Please try again.")
engine.runAndWait()


if __name__ == "__main__":
    main()
```
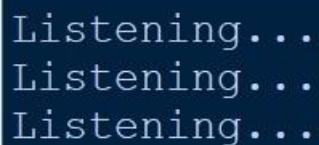
OUTPUT:

```
Listening...
Listening...
Listening...
```

RESULT:

Hence , Comparison for command line interface ,graphical user interface,voice user interface for same task has been studied successfully.