USER INTERFACES

EX-3

AIM:

To understand the different types of user interfaces ,CLI,VUI and GUI .

PROCEDURE:

1. Execute the following python code
2. Enter the necessary input
3. Get the output

CODE:

GUI

```
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)

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()
```

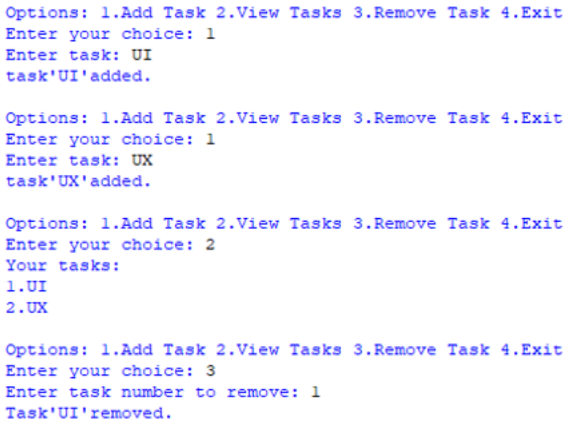
CLI

```
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.")

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 yoour 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()
```

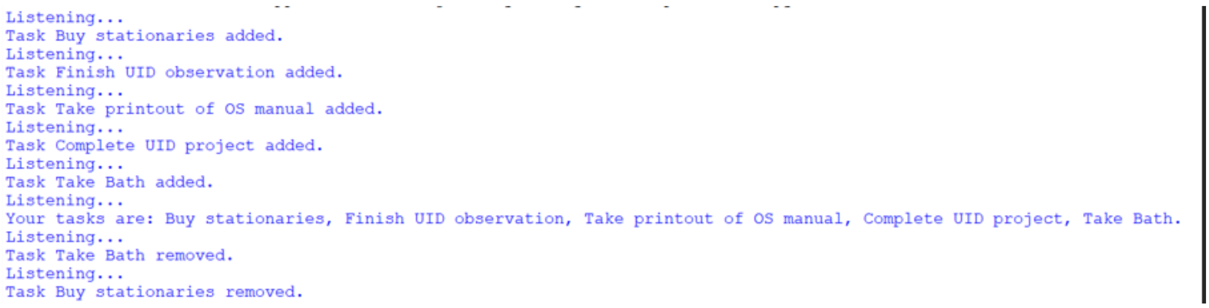
VUI

```
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):
        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?")
      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()
```

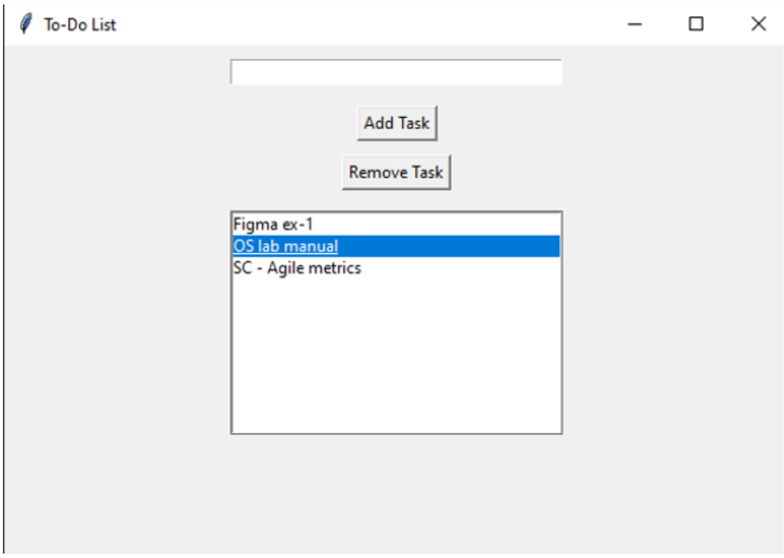
OUTPUT:



```
Options: 1.Add Task 2.View Tasks 3.Remove Task 4.Exit
Enter your choice: 1
Enter task: UI
task'UI'added.

Options: 1.Add Task 2.View Tasks 3.Remove Task 4.Exit
Enter your choice: 1
Enter task: UX
task'UX'added.

Options: 1.Add Task 2.View Tasks 3.Remove Task 4.Exit
Enter your choice: 2
Your tasks:
1.UI
2.UX

Options: 1.Add Task 2.View Tasks 3.Remove Task 4.Exit
Enter your choice: 3
Enter task number to remove: 1
Task'UI'removed.
```



```
Listening...
Task Buy stationaries added.
Listening...
Task Finish UID observation added.
Listening...
Task Take printout of OS manual added.
Listening...
Task Complete UID project added.
Listening...
Task Take Bath added.
Listening...
Your tasks are: Buy stationaries, Finish UID observation, Take printout of OS manual, Complete UID project, Take Bath.
Listening...
Task Take Bath removed.
Listening...
Task Buy stationaries removed.
```



Figma ex-1
OS lab manual
SC - Agile metrics