

GUI를 부탁해!

Tkinter



SCP 심재훈

목차



CLI란?

Command-Line Interface
명령 줄 인터페이스

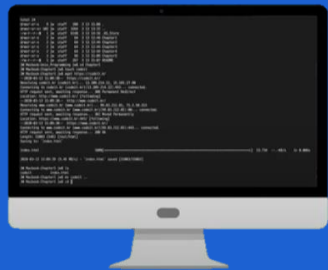


GUI란?

Graphical User Interface
그래픽 사용자 인터페이스

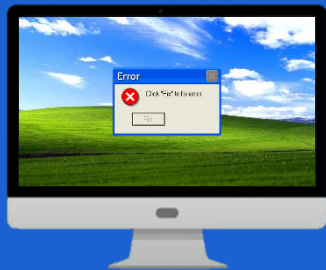


유용성



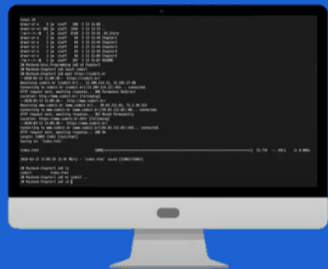
CLI

VS



GUI

메모리 사용량



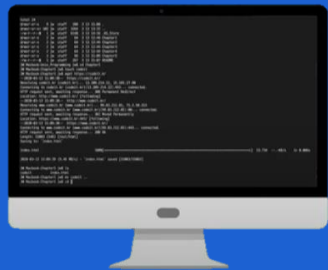
CLI

VS



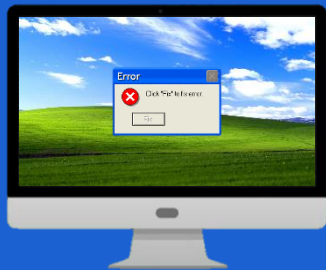
GUI

속도



CLI

VS



GUI

Tkinter란?

Tcl/Tk를 Python에서 사용할 수 있도록 한 모듈

- └ Tcl(Tool Command Language) - 프로그래밍 언어
- └ Tk - GUI 툴킷

타 GUI 툴킷 보다 지원하는 위젯 수가 적고 UI가 이쁘지 않음

Why Tkinter?

Python에 내장되어 있는 파이썬 표준 라이브러리

- └ 쉽고 간단히 GUI 프로그래밍을 할 수 있다.

Tkinter 사용법

From tkinter Import *



간단한 실습

메인 창 생성

Tk 객체 생성



GUI 완성

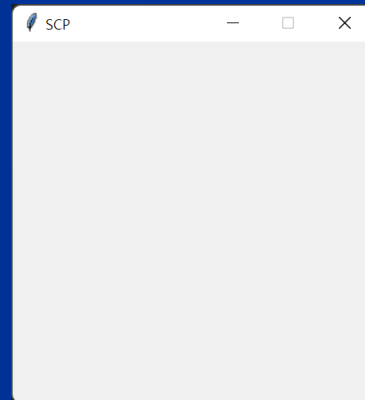
메인 루프 실행

```
from tkinter import *

root = Tk() # 객체 생성

root.title("SCP") # GUI 제목
root.geometry("300x300") # GUI 크기
root.resizable(False, False) # GUI 크기 조절 가능 여부

root.mainloop() # 메인 루프 실행
```



위젯 생성

GUI 컴포넌트
생성

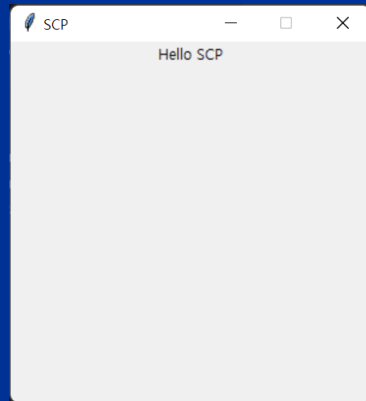


GUI 완성

메인 루프 실행



```
from tkinter import *  
  
root = Tk() # 객체 생성  
  
root.title("SCP") # GUI 제목  
root.geometry("300x300") # GUI 크기  
root.resizable(False, False) # GUI 크기 조절 가능 여부  
  
lab = Label(root, text="Hello SCP") # root 객체에 라벨 위젯 생성  
lab.pack() # root 객체에 배치  
  
root.mainloop() # 메인 루프 실행
```



위젯 생성

GUI 컴포넌트
생성



GUI 완성

메인 루프 실행

```
from tkinter import *

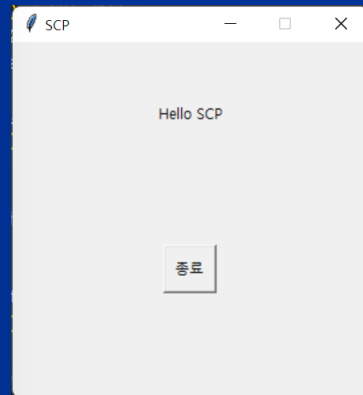
root = Tk() # 객체 생성

root.title("SCP") # GUI 제목
root.geometry("300x300") # GUI 크기
root.resizable(False, False) # GUI 크기 조절 가능 여부

lab = Label(root, text="Hello SCP") # root 객체에 라벨 위젯 생성
lab.pack(pady=50) # root 객체에 배치 / 간격 조절

btn = Button(root, width=5, height=2, text="종료") # root 객체에 버튼 위젯 생성
btn.pack(pady=50) # root 객체에 배치 / 간격 조절

root.mainloop() # 메인 루프 실행
```



GUI 완성

메인 루프 실행



미리 등록된
처리 실행

이벤트

```
from tkinter import *
from tkinter import messagebox
import sys

root = Tk() # 객체 생성

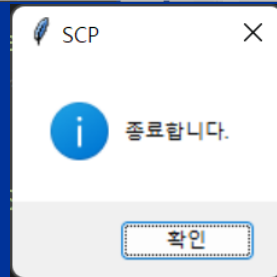
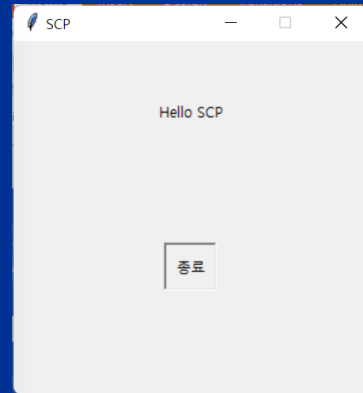
root.title("SCP") # GUI 제목
root.geometry("300x300") # GUI 크기
root.resizable(False, False) # GUI 크기 조절 가능 여부

lab = Label(root, text="Hello SCP") # root 객체에 라벨 위젯 생성
lab.pack(pady=50) # root 객체에 배치 / 간격 조절

def end():
    messagebox.showinfo("SCP", "종료합니다.") # 메시지 박스 생성
    sys.exit() # 프로그램 종료

btn = Button(root, width=5, height=2, text="종료", command=end) # root 객체에 버튼 위젯 생성
btn.pack(pady=50) # root 객체에 배치 / 간격 조절

root.mainloop() # 메인 루프 실행
```



GUI 적용 실습

```
C:\Windows\System32\cmd.exe - python ...  
(c) Microsoft Corporation. All rights reserved.  
C:\Users\lynas\Desktop\SCP>python py_menu.py  
  
| MENU |  
  
| 1. password_list File Create |  
| 2. ZIP Password Cracking |  
| 3. PDF Password Cracking |  
| 0. Quit the Program |  
  
입력 :
```



```
if(menu_choise_num == 0):
    print("프로그램을 종료합니다.\n")
    return
```

```
def exit():
    messagebox.showinfo("File Password Cracking Program", "프로그램을 종료합니다.")
    sys.exit()

menu_exit_button = Button(root, width=20, height=3, text="프로그램 종료", command=exit, font=("나눔고딕", 10, "bold"))
menu_exit_button.pack(pady=15)
```

```

# 메뉴
def menu_choise(menu_choise_num):
    if(menu_choise_num == 0):
        print("프로그램을 종료합니다.\n")
        return

    elif(menu_choise_num == 1):
        cpf()
        return

    elif(menu_choise_num == 2):
        zpc_crackzip=input("크랙할 zip 파일 입력 : ")
        zpc_pwfile=input("패스워드 txt 파일 입력 : ")
        zpc(zpc_crackzip, zpc_pwfile)
        return

    elif(menu_choise_num == 3):
        ppc_crackpdf=input("크랙할 pdf 파일 입력 : ")
        ppc_pwfile=input("패스워드 txt 파일 입력 : ")
        ppc(ppc_crackpdf, ppc_pwfile)
        return

    else:
        print("::: Enter Error :::\n")
        return

while True:
    print("
MENU
")
    print("
1. password_list File Create
2. ZIP Password Cracking
3. PDF Password Cracking
0. Quit the Program
")
    menu_choise_num = int(input("입력 : "))
    menu_choise(menu_choise_num)

if(menu_choise_num==0):
    break

```

```

# 메뉴
def menu():
    root = Tk()
    root.title("File Password Cracking Program")
    root.geometry("300x350")
    root.resizable(False, False)
    root.config(bg="gray")

    menu_pfc_button = Button(root, width=20,height=3, text="패스워드 파일 생성", command=pfc_input, font=("나눔고딕",10,"bold"))
    menu_pfc_button.pack(pady=15)

    menu_zc_button = Button(root, width=20,height=3, text="ZIP File Cracking", command=zc_input, font=("나눔고딕",10,"bold"))
    menu_zc_button.pack(pady=15)

    menu_pc_button = Button(root, width=20,height=3, text="PDF File Cracking", command=pc_input, font=("나눔고딕",10,"bold"))
    menu_pc_button.pack(pady=15)

    def exit():
        messagebox.showinfo("File Password Cracking Program", "프로그램을 종료합니다.")
        sys.exit()

    menu_exit_button = Button(root, width=20,height=3, text="프로그램 종료", command=exit, font=("나눔고딕",10,"bold"))
    menu_exit_button.pack(pady=15)

    root.mainloop()

menu()

```



```

# 메뉴
def menu_choise(menu_choise_num):
    if(menu_choise_num == 0):
        print("프로그램을 종료합니다.\n")
        return

    elif(menu_choise_num == 1):
        cpf()
        return

    elif(menu_choise_num == 2):
        zpc_crackzip=input("크랙할 zip 파일 입력 : ")
        zpc_pwfile=input("패스워드 txt 파일 입력 : ")
        zpc(zpc_crackzip, zpc_pwfile)
        return

    elif(menu_choise_num == 3):
        ppc_crackpdf=input("크랙할 pdf 파일 입력 : ")
        ppc_pwfile=input("패스워드 txt 파일 입력 : ")
        ppc(ppc_crackpdf, ppc_pwfile)
        return

    else:
        print("::: Enter Error :::\n")
        return

while True:
    print("
MENU
1. password_list File Create
2. ZIP Password Cracking
3. PDF Password Cracking
0. Quit the Program
")
    menu_choise_num = int(input("입력 : "))
    menu_choise(menu_choise_num)

if(menu_choise_num==0):
    break

```

```

# 메뉴
def menu():
    root = Tk()
    root.title("File Password Cracking Program")
    root.geometry("300x350")
    root.resizable(False, False)
    root.config(bg="gray")

    menu_pfc_button = Button(root, width=20,height=3, text="패스워드 파일 생성", command=pfc_input, font=("나눔고딕",10,"bold"))
    menu_pfc_button.pack(pady=15)

    menu_zc_button = Button(root, width=20,height=3, text="ZIP File Cracking", command=zc_input, font=("나눔고딕",10,"bold"))
    menu_zc_button.pack(pady=15)

    menu_pc_button = Button(root, width=20,height=3, text="PDF File Cracking", command=pc_input, font=("나눔고딕",10,"bold"))
    menu_pc_button.pack(pady=15)

    def exit():
        messagebox.showinfo("File Password Cracking Program", "프로그램을 종료합니다.")
        sys.exit()

    menu_exit_button = Button(root, width=20,height=3, text="프로그램 종료", command=exit, font=("나눔고딕",10,"bold"))
    menu_exit_button.pack(pady=15)

    root.mainloop()

menu()

```




```
# 메뉴
def menu():
    root = Tk()
    root.title("File Password Cracking Program")
    root.geometry("300x350")
    root.resizable(False, False)
    root.config(bg="gray")

    menu_pfc_button = Button(root, width=20, height=3, text="패스워드 파일 생성", command=pfc_input, font=("나눔고딕", 10, "bold"))
    menu_pfc_button.pack(pady=15)

    menu_zc_button = Button(root, width=20, height=3, text="ZIP File Cracking", command=zc_input, font=("나눔고딕", 10, "bold"))
    menu_zc_button.pack(pady=15)

    menu_pc_button = Button(root, width=20, height=3, text="PDF File Cracking", command=pc_input, font=("나눔고딕", 10, "bold"))
    menu_pc_button.pack(pady=15)

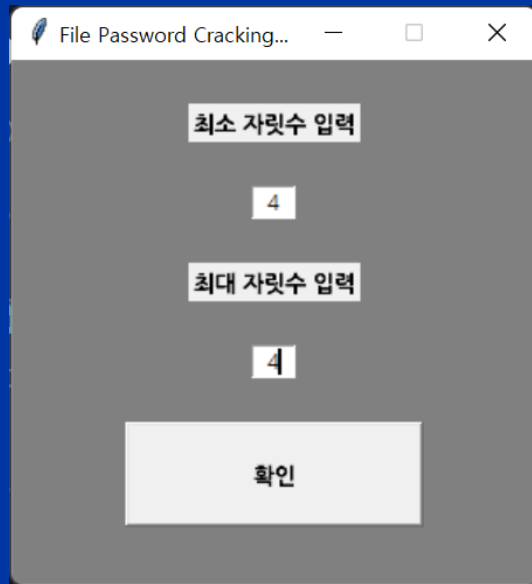
    def exit():
        messagebox.showinfo("File Password Cracking Program", "프로그램을 종료합니다.")
        sys.exit()

    menu_exit_button = Button(root, width=20, height=3, text="프로그램 종료", command=exit, font=("나눔고딕", 10, "bold"))
    menu_exit_button.pack(pady=15)

    root.mainloop()

menu()
```

패스워드 파일 생성



```
def pfc_input():
    pfc=Tk()
    pfc.title("File Password Cracking Program")
    pfc.geometry("300x300")
    pfc.resizable(False, False)
    pfc.config(bg="gray")

    pfc_min_lab = Label(pfc, font=("나눔고딕",10,"bold"))
    pfc_min_lab['text'] = "최소 자릿수 입력"
    pfc_min_lab.pack(pady=25)
    pfc_min_ent = Entry(pfc, width=3, justify="center")
    pfc_min_ent.pack()

    pfc_max_lab = Label(pfc, font=("나눔고딕",10,"bold"))
    pfc_max_lab['text'] = "최대 자릿수 입력"
    pfc_max_lab.pack(pady=25)
    pfc_max_ent = Entry(pfc, width=3, justify="center")
    pfc_max_ent.pack()

    pfc_button = Button(pfc, width=20,height=3, text="확인", command=pfc_main, font=("나눔고딕",10,"bold"))
    pfc_button.pack(pady=25)
```

```

def pfc_main():
    min_len = pfc_min_ent.get()
    max_len = pfc_max_ent.get()

    counter = 0
    char = string.ascii_lowercase + string.digits

    file_open = open("Password_File.txt", 'w')

    start=time.time()

    for i in range(int(min_len), int(max_len) + 1):
        for j in product(char, repeat=i):
            word = "".join(j)
            file_open.write(word)
            file_open.write('\n')
            counter += 1

    end = time.time()

    pfc_msg()
    pfc.destroy()

```

```

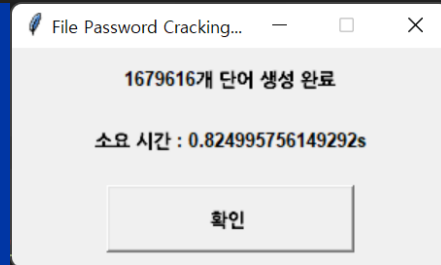
def pfc_msg():
    pfc_msg = Tk()
    pfc_msg.title("File Password Cracking Program")
    pfc_msg.geometry("200x150")
    pfc_msg.config(bg="gray")
    pfc_msg.resizable(False, False)

    pfc_lab = Label(pfc_msg, font=("나눔고딕",10,"bold"))
    pfc_lab['text'] = "{}개 단어 생성 완료".format(counter)
    pfc_lab.pack(pady=10)

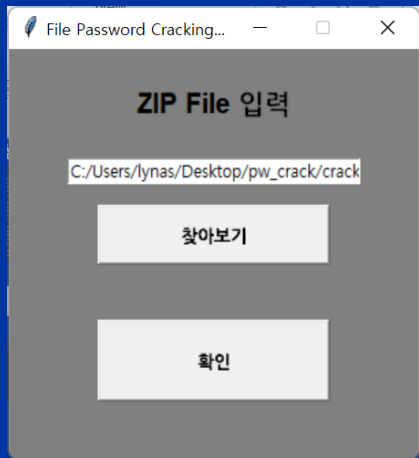
    pfc_lab2 = Label(pfc_msg, font=("나눔고딕",10,"bold"))
    pfc_lab2['text'] = "소요 시간 : {}".format(end-start)
    pfc_lab2.pack(pady=10)

    pfc_msg_button = Button(pfc_msg, width=20,height=3, text="확인 ", command=lambda:pfc_msg.destroy(), font=("나눔고딕",10,"bold"))
    pfc_msg_button.pack(pady=10)

```



ZIP File Cracking



```
def zc_input():
    zc=Tk()
    zc.title("File Password Cracking Program")
    zc.geometry("300x300")
    zc.resizable(False, False)
    zc.config(bg="gray")

    zc_zip = Label(zc, font=("나눔고딕",15,"bold"))
    zc_zip ['text'] = "ZIP File 입력"
    zc_zip.config(bg="gray")
    zc_zip.pack(pady=25)

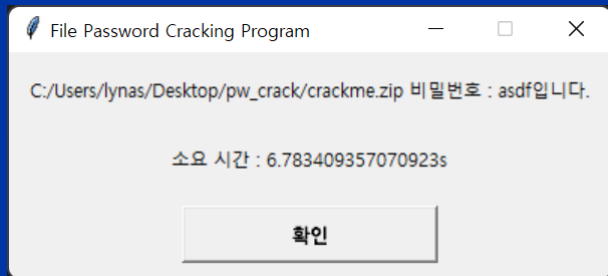
    zc_ent = Entry(zc, width=30)
    zc_ent.pack()

    def zc_input_file():
        zc_crack_zip = zc_ent.get()
        zc_main(zc_crack_zip)

    def zc_select():
        zc.filename = filedialog.askopenfilename(initialdir='C:/', title='Select Zip File', filetypes=(("zip file", "*.zip"),("all", "*.*")))
        zc_ent.insert(0,zc.filename)

    zc_button2 = Button(zc, width=20,height=2, text="찾아보기", command=zc_select, font=("나눔고딕",10,"bold"))
    zc_button2.pack(pady=15)

    zc_button = Button(zc, width=20,height=3, text="확인", command=zc_input_file, font=("나눔고딕",10,"bold"))
    zc_button.pack(pady=25)
```



```
def zc_main(zc_crack_zip):
    zc_pw_file = "Password_File.txt"

    def extractFile(zfile, pw):
        try:
            zfile.extractall(pwd=bytes(pw, 'utf-8')) # 압축해제,
            print("패스워드 크래킹 성공!")
            return pw

        except:
            print("패스워드 크래킹 진행 중 : " + pw)
            return

    zfile = zipfile.ZipFile(zc_crack_zip)
    passFile = open(zc_pw_file)
    start = time.time()

    for line in passFile.readlines():
        pw = line.strip('\n')
        real_pw = extractFile(zfile, pw)

        if real_pw:
            def zc_msg():
                zc_msg = Tk()
                zc_msg.title("File Password Cracking Program")
                zc_msg.geometry("400x150")
                zc_msg.resizable(False, False)

                zc_lab = Label(zc_msg)
                zc_lab['text'] = "{} 비밀번호 : ".format(zc_crack_zip) + pw + "입니다."
                zc_lab.pack(pady=15)

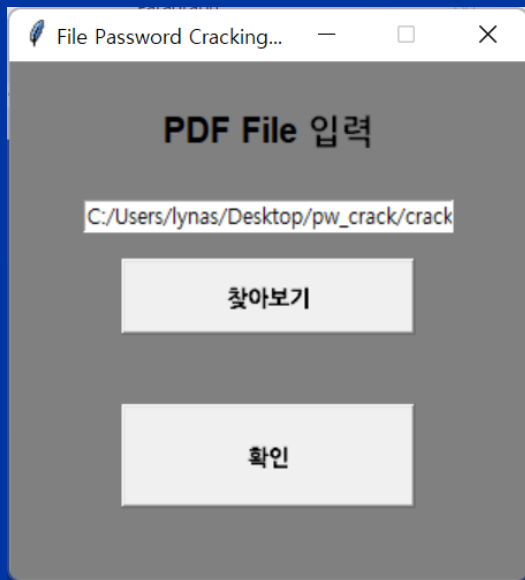
                zc_lab2 = Label(zc_msg)
                zc_lab2['text'] = "소요 시간 : {}s".format(end-start)
                zc_lab2.pack(pady=10)

                zc_msg_button = Button(zc_msg, width=20, height=3, text="확인", command=lambda: zc_msg.destroy(), font=("나눔고딕", 10, "bold"))
                zc_msg_button.pack(pady=10)

            end = time.time()
            zc_msg()
            break

    zc.destroy()
```

PDF File Cracking



```
def pc_input():
    pc=Tk()
    pc.title("File Password Cracking Program")
    pc.geometry("300x300")
    pc.resizable(False, False)
    pc.config(bg="gray")

    pc_pdf = Label(pc, font=("나눔고딕", 15, "bold"))
    pc_pdf ['text'] = "PDF File 입력"
    pc_pdf.config(bg="gray")
    pc_pdf.pack(pady=25)

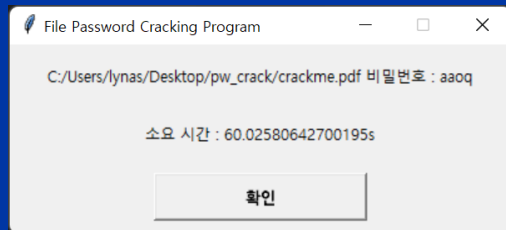
    pc_ent = Entry(pc, width=30)
    pc_ent.pack()

    def pc_input_file():
        pc_crack_pdf = pc_ent.get()
        pc_main(pc_crack_pdf)

    def pc_select():
        pc.filename = filedialog.askopenfilename(initialdir='C:/', title='Select Pdf File', filetypes=(("pdf file", "*.pdf"),("all", "*.*")))
        pc_ent.insert(0,pc.filename)

    pc_button2 = Button(pc, width=20,height=2, text="찾아보기", command=pc_select, font=("나눔고딕",10,"bold"))
    pc_button2.pack(pady=15)

    pc_button = Button(pc, width=20,height=3, text="확인", command=pc_input_file, font=("나눔고딕",10,"bold"))
    pc_button.pack(pady=25)
```

```
def pc_main(pc_crack_pdf):
    passwords = []
    password_file = "Password_File.txt"

    for line in open(password_file):
        passwords.append(line.strip())

    start = time.time()

    for password in passwords:
        try:
            with pikepdf.open(pc_crack_pdf, password=password):
                def pc_msg():
                    pc_msg = Tk()
                    pc_msg.title("File Password Cracking Program")
                    pc_msg.geometry("400x150")
                    pc_msg.resizable(False, False)

                    pc_lab = Label(pc_msg)
                    pc_lab['text'] = "{} 비밀번호 : {}".format(pc_crack_pdf)+password
                    pc_lab.pack(pady=15)

                    pc_lab2 = Label(pc_msg)
                    pc_lab2['text'] = "소요 시간 : {}".format(end-start)
                    pc_lab2.pack(pady=10)

                    pc_msg_button = Button(pc_msg, width=20,height=3, text="확인", command=lambda:pc_msg.destroy(), font=("나눔고딕",10,"bold"))
                    pc_msg_button.pack(pady=10)

                    end = time.time()
                    pc_msg()
                    break

            except pikepdf._qpdf.PasswordError:
                continue

    pc.destroy()
```



Q & A

감사합니다



SCP 심재훈