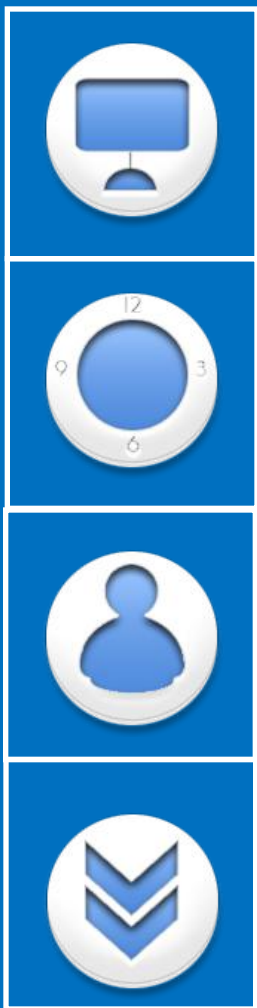


# 简易的文本编辑器

庄嘉恒





设计方案



关键语法



运行效果



创新之处

# 设计方案

## 功能简介

- (1) 导入英文文章
- (2) 将内容拆解为单词，删去周围空白字符和标点，转换为小写
- (3) 统计文章中出现全部英文单词的总数量
- (4) 统计文章中每个英文单词的词频
- (5) 采用停用词表，绘制词频最高六个单词的柱状图
- (6) 将上述功能包装为GUI界面
- (7) 查找替换功能
- (8) 清空文本的删除功能
- (9) 高亮显示用户指定文本
- (10) 添加菜单栏
- (11) 增加对话框和消息框
- (12) 插入超链接

# 设计方案

- (13) 高亮指定的单词
- (14) 生成词云图
- (15) 保存当前文本
- (16) 撤销和恢复操作
- (17) 统计操作时间功能
- (18) 文件导出功能
- (19) 将文件打包为小程序

#1-6为基础要求，7-12为可选项，  
13-19为补充项

# 设计方案

## 基本语法

### 字符串

len() split() lower()  
replace() strip ()

### 字典

get() dic[key]=value  
items()

### 列表

len() sort()

### 文件

txt=open(fd,"r").read()

### time库

start=time.perf\_counter()  
end=time.perf\_counter()

# 设计方案

## 柱状图

```
bar(x,y,**kw)
```

## 云图

```
wordcloud.WordCloud(font_path,  
max_words,width,background_color)
```

```
w.generate(text)
```

```
w.to_file()
```

## re库

```
re.finditer(pattern,string,flags=0)
```

```
re.sub(pattern,repl,string,count=0)
```

```
match.start()
```

```
match.end()
```

```
match.group()
```

## 设计方案

### Text函数

`textbox.insert()`

`textbox.get()`

`textbox.delete()`

`textbox.tag_add(tagname,ind1,ind2)`

`textbox.tag_config(tagname,**kw)`

`textbox.tag_bind(tagname,sequence,  
func,add=None)`

`textbox.edit_separator()`

`textbox.edit_undo()`

`textbox.edit_redo()`

### 对话框函数

`tkinter.simpledialog.askstring()`

`tkinter.messagebox.showinfo()`

`tkinter.filedialog.asksaveasfilename()`

`tkinter.filedialog.askopenasfilename()`




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页面设计篇

关键语法

词频统计篇

查找标记篇

# 关键语法

## 创建窗口，标签，按钮

```
cipin=tk.Tk()
cipin.title("词频统计结果")
cipin.geometry("400x300")
textbox1 = tk.Text(cipin)
textbox1.place(x=0,y=0,width=400,height=300)
```

```
labelNum2=tk.Label(top,
                    text="词数统计: "+str(rlt),
                    justify=tk.RIGHT,
                    width=80)
labelNum2.place(x=10,y=575,width=125,height=20)
```

```
drawBtn=tk.Button(top,
                   text="绘制图形",
                   command=lambda:draw(text,stopwords))
drawBtn.place(x=230,y=10,width=60,height=30)
```

# 关键语法

## 创建菜单

*#filemenu2 创建主菜单和子菜单*

c2

=

```
[strlong,wordlong,lambda:frequency(text),lambda:draw(text,stopwords),lambda:  
drawcloud(text)]
```

i = 0

```
filemenu2 = tk.Menu(menuubar,tearoff = 0)
```

```
for item in ['字符统计','词数统计','词频统计','绘柱状图','绘制云图']:
```

```
    filemenu2.add_command(label = item,command = c2[i])
```

```
    filemenu2.add_separator() #加分割线
```

i = i + 1

*#指定主菜单和子子菜单的级联关系*

*#将 menuubar 的 menu 属性指定为 filemenu, 即 filemenu 为 menuubar 的下拉菜单*

```
menuubar.add_cascade(label = '文件编辑',menu = filemenu1)
```

```
menuubar.add_cascade(label = '统计功能',menu = filemenu2)
```

```
top['menu'] = menuubar
```

# 关键语法

## 创建文本框，滚动条

```
top = tk.Tk()    #Toplevel
top.geometry("625x600")
top.resizable(False,False)    #可以用pack()布局滚动条的基础
top.title("简易的文本编辑器")
#创建文本框
textbox = tk.Text(top,undo=True,maxundo=20)    #最大撤销次数
textbox.place(x=5,y=50,width=600,height=500)

ybar=tk.Scrollbar(top,orient=tk.VERTICAL)
ybar.config(command=textbox.yview)
textbox.config(yscrollcommand=ybar.set)
ybar.pack(side=tk.RIGHT,fill=tk.Y)    #滚动条至于窗口右端，填
```

# 关键语法

## 撤销恢复操作

```
textbox = tk.Text(top,undo=True,maxundo=20) #最大撤销次数
textbox.place(x=5,y=50,width=600,height=500)
#插入一个分隔符到存放操作记录的栈中,用于表示已经完成一次
textbox.edit_separator()
```

```
def key_callback(event): #定义键盘回调函数,绑定键盘操作
    textbox.edit_separator()#插入一个分隔符到存放操作记录的栈中,用于表示完成一次完整操作(每次撤销一个操作)

def undo_callback(): #撤回
    textbox.edit_undo()

def redo_callback(): #恢复
    textbox.edit_redo()
```

# 关键语法

## 超链接操作

```
def click126(event):  
    webbrowser.open("http://mail.126.com/")  
  
def link126():  
    textbox.insert("1.0","我使用 126 邮件服务器\n")  
    textbox.tag_add("link126","1.3","1.6")  
    textbox.tag_config("link126",foreground="blue",underline=True)  
  
# 定义鼠标移入移除事件的回调函数  
  
def show_hand_cursor(event):  
    textbox.config(cursor="arrow")  
  
def show_arrow_cursor(event):  
    textbox.config(cursor="xterm")  
  
# 链接效果 163  
  
textbox.tag_bind("link163","<Enter>",show_hand_cursor)  
textbox.tag_bind("link163","<Button-1>",click163)  
textbox.tag_bind("link163","<Leave>",show_arrow_cursor)
```

# 关键语法

## 创建消息框，对话框

```
tkinter.messagebox.showinfo("Hint","Successfully generated!")
```

```
fd=tkinter.filedialog.askopenfilename()
try:
    txt=open(fd,"r").read()
except UnicodeDecodeError: #使其适用于不同编码类型的文本
    txt=open(fd,"r",encoding="utf-8").read()
```

```
old = tkinter.simpledialog.askstring('Hint','Please enter the old word')
```

**关键词法**

**页面设计篇**

**词频统计篇**

**查找标记篇**



# 关键语法

```
def getText(txt): #文本初步处理函数

    txt=txt.lower()

    for ch in '!"#$%()*+,-./:;<=>?@[\\]^_`{|}~\'' - ' ' “ ” 0123456789':

        txt=txt.replace(ch,"")

    return txt

def frequency(text): #词频统计函数

    words=text.split()

    counts={}

    for word in words:

        counts[word]=counts.get(word,0)+1#如果这个单词在字典中

词的键对应的值加一，如果不在，则将这个单词的值初始化为1

    items=list(counts.items())

    items.sort(key=lambda x:x[1],reverse=True)#按照值的大小倒序(从大

    for i in range(len(items)):

        word,count=items[i]

        print("{0:<15}{1:>5}".format(word,count))
```

# 关键语法

## 绘制词云

```
def drawcloud(text):  
    w=wordcloud.WordCloud(font_path="msyh.ttc",  
                           max_words=20,  
                           width=1000,height=700,  
                           background_color="white")  
  
    #生成词云的函数，可以设置的参数有背景色，宽度高度，最大次数  
    #词的形状等  
  
    w.generate(text)  
  
    w.to_file("wordcloud.jpg")  
  
    tkinter.messagebox.showinfo("Hint","Successfully generated!")
```

**关键语法**

**页面设计篇**

**词频统计篇**

**查找标记篇**

# 关键语法

## 标记单词

```
def wordlight(pos,speword,specolor):  
    op='+'*str(len(speword))+1  
    textbox.tag_add("highlight",pos,pos+op)  
    textbox.tag_config("highlight",background=specolor,foreground="black")  
  
def searchword():  
    start="1.0"  
    speword = tkinter.simpledialog.askstring('Hint','Please enter the word')  
    specolor = tkinter.simpledialog.askstring('Hint','Please enter the color')  
    while True:  
        pos=textbox.search(speword,start,stopindex=tk.END)  
        if not pos: #返回起始位  
            break  
        #print("位置是:",getindex(textbox,pos))  
        wordlight(pos,speword,specolor)  
        start=pos+'+1'
```

# 关键语法

## 替换单词

```
def change(text):  
    text=" "+text[:-1]+" "  
  
    old = tkinter.simpledialog.askstring('Hint','Please enter the old  
    new = tkinter.simpledialog.askstring('Hint','Please enter the new  
    #text=re.sub("[\s]*"+old+"[^a-z]"," "+new+" ",text,re.I)  
    old=" "+old+" ";new=" "+new+" "  
  
    text=text.replace(old,new)#通过补空格的方式整体替换，最后  
    text=text.strip()  
  
    textbox.delete(1.0,tk.END)  
  
    textbox.insert(tk.INSERT,text)
```

# 关键语法

## 查找单词

```
def searchword0():  
    speword = tkinter.simpledialog.askstring('Hint','Please enter t  
    it=re.finditer("[\s]"+speword+"[^a-z]",text,re.I)  
  
    for match in it: #得到迭代器里的东西需要循环  
        i+=1  
        a=match.start()    #对 match 对象进行操作, 获取 match 对象  
        b=match.end()
```

```
re.finditer("[\s]"+speword+"[^a-z]",text,re.I)
```




设计方案



关键语法



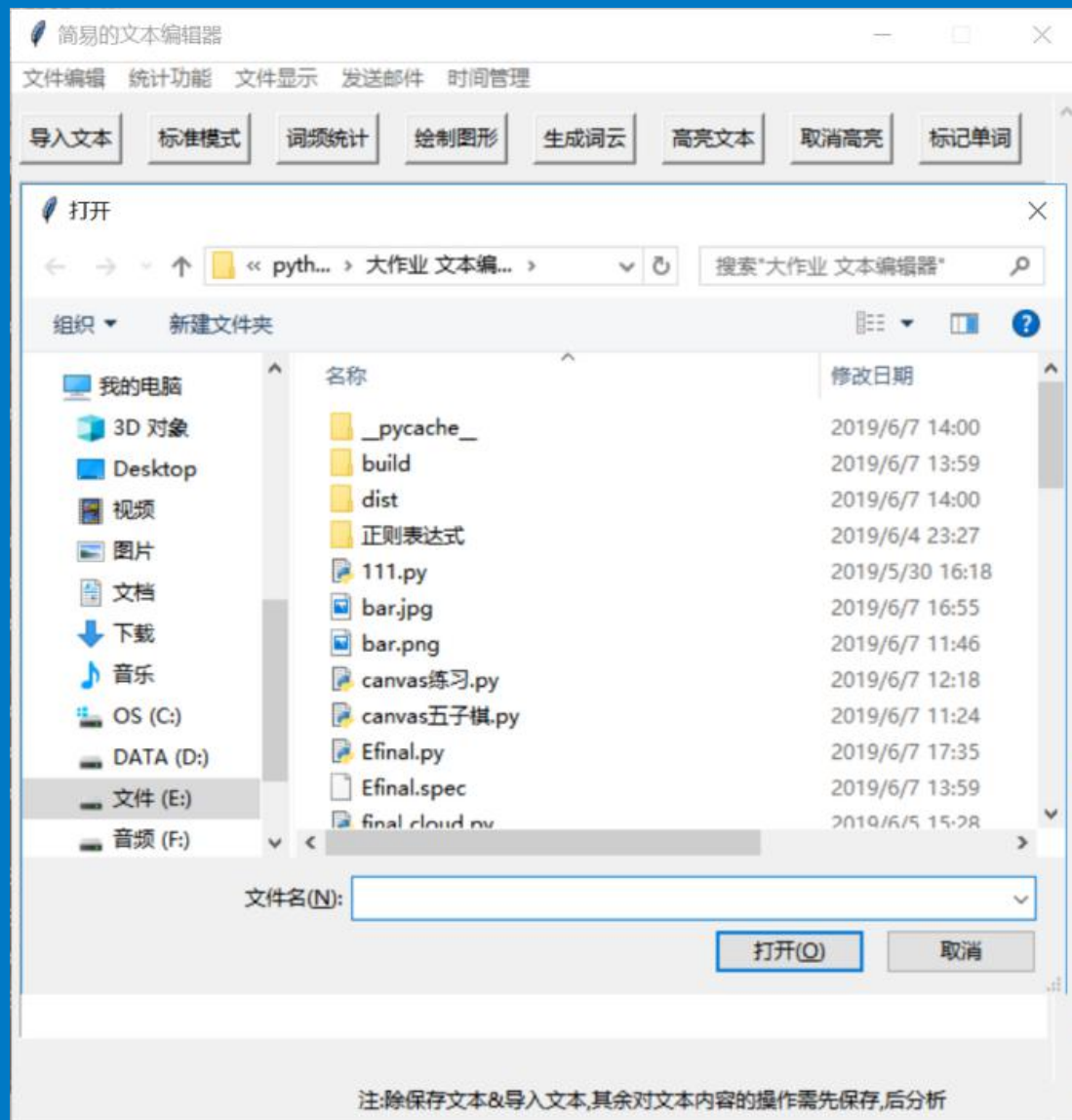
运行效果



创新之处



# 运行效果

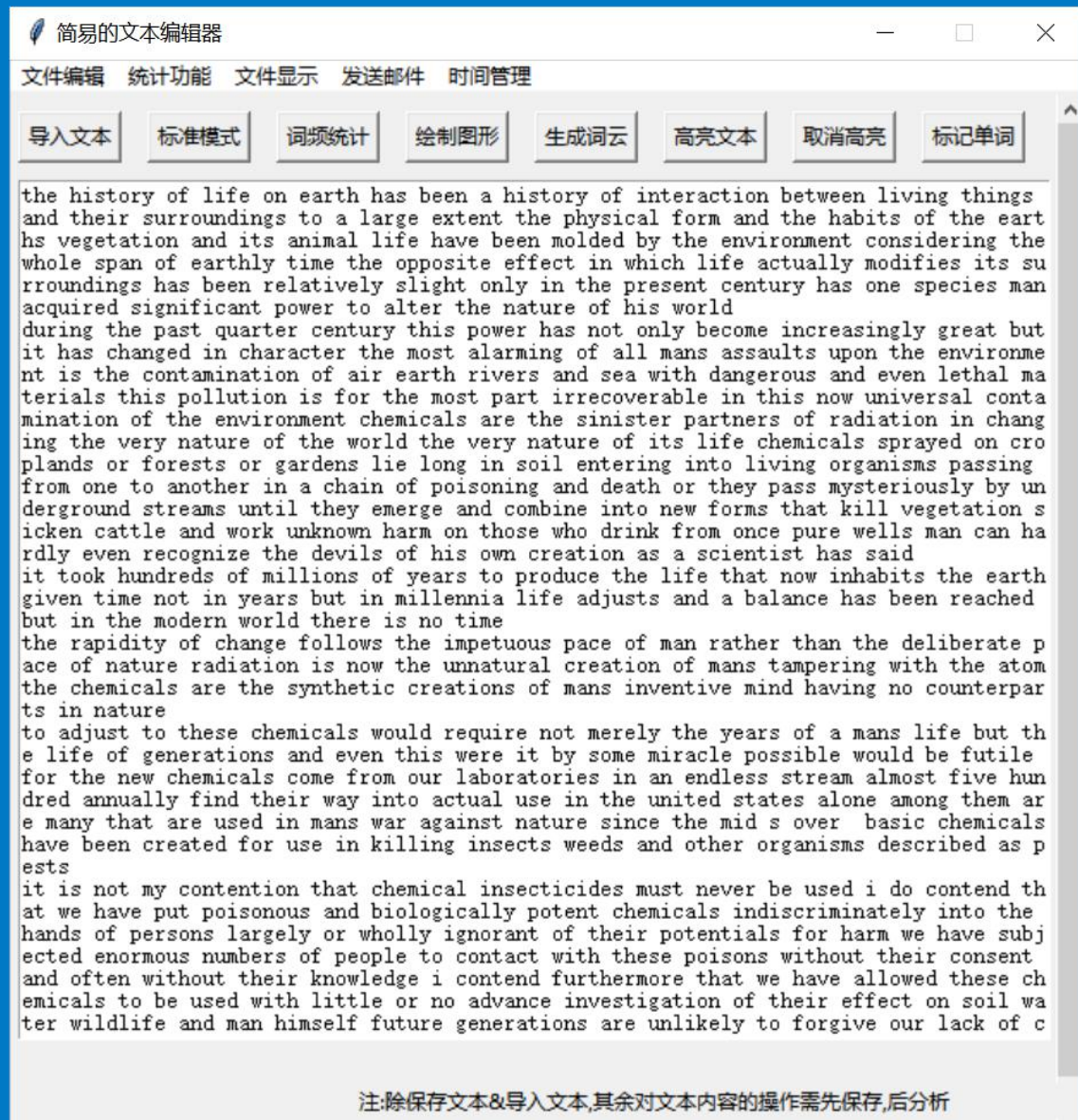




# 运行效果

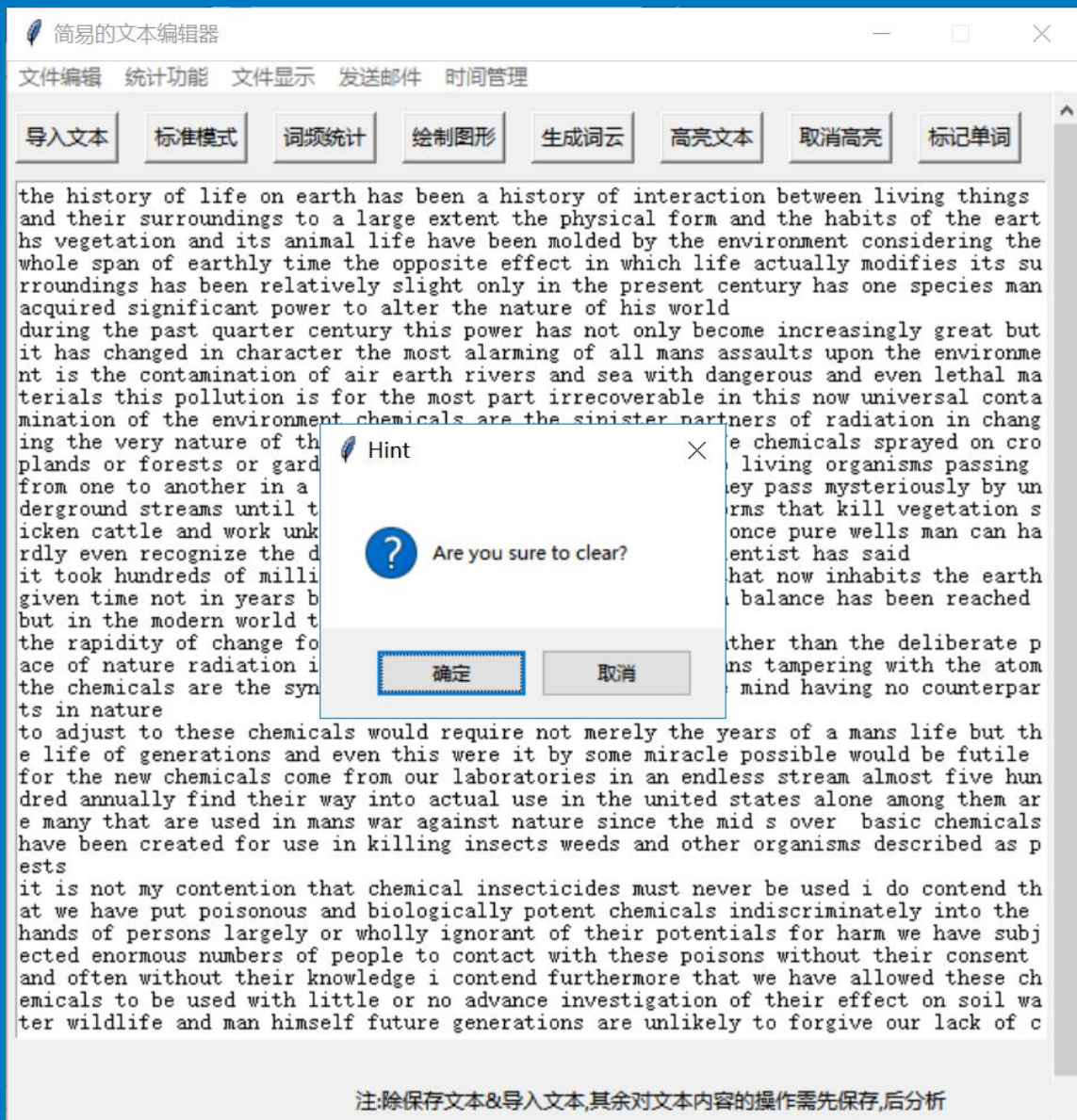


# 运行效果

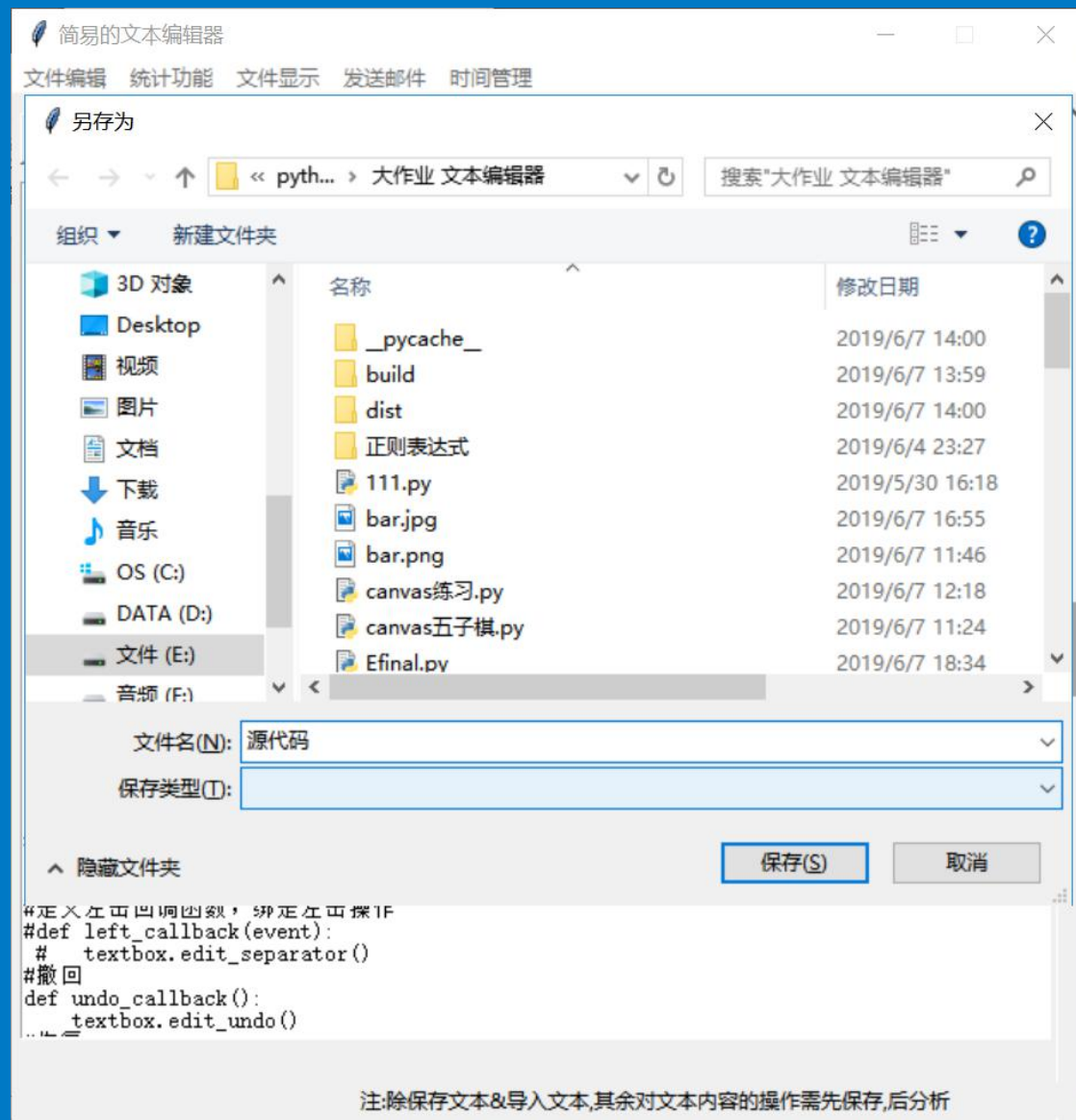




# 运行效果



# 运行效果



# 运行效果

```
源代码 - 记事本
文件(E) 编辑(E) 格式(O) 查看(V) 帮助(H)
# -*- coding: utf-8 -*-
"""
Created on Thu May 30 14:04:49 2019

@author: zjh
"""

import tkinter as tk
import tkinter.messagebox
import tkinter.simpledialog
import tkinter.filedialog
import numpy as np
import matplotlib.pyplot as plt
import re
import webbrowser
import time
import wordcloud
from PIL import Image, ImageTk

def originaltext():
    global text #让此处的text被其他地方调用
```

源代码

2019/6/7 19:29

文件

# 运行效果

简易的文本编辑器

文件编辑 统计功能 文件显示 发送邮件 时间管理

导入文本 标准模式 词频统计 绘制图形 生成词云 高亮文本 取消高亮 标记单词

diary one i am very lucky to be admitted to the class of louis although it is a optional course i am expecting highly of it i hope that i can get something useful about bec through this course what is more laying a foundation for my further study on bec t hat is why i choose it the first lesson od activating every one of us he let us to our pour english i think this is impo n english well vocabulary and words are must have bravery to speak out in public he various people that include your clas nds and the foreigners i have studied er es in communicating with the other perso shame to say this louis is a enthusiast mself it was very unforgettable for us b introduce ourselves i saw someone stand jealous of them because they had the bra intending to stand up to ask questions a hand back may be i must have a look at ns why i afraid why i not stand why i no wer the questions i finally know life is rtunities the opportunities will miss yo at i get from the first class i know eve s which are laid in front of him i am v business english so i put my heart into e many friends in the class but i rememb ve first i will never forget this saying tion and my time into it every one wil ass i found time is swift it could prove he first lesson is always unforgettable iting for you i like challenge so i lik e tomorrow is also new day for me the day after tomorrow is also new as for me every day is new day for me because i always remember one thing let bygones be bygones thi s is my first business english lesson i like it diary two i think i have a good night today i saw louis again this evening because it was time for business english class i dare to say you can see a smile in his face everyday i can guess if somebody is in a bad mood he will get better when he sees louis according to the thirteen week study i have found louis is a vigorous man he is full of enthusiasm and have a lot of energie s which seem that they are not used out tonight louis gave out some paper which was c ut to pieces these pieces came from a business letter louis had disorder these piece

词频统计结果

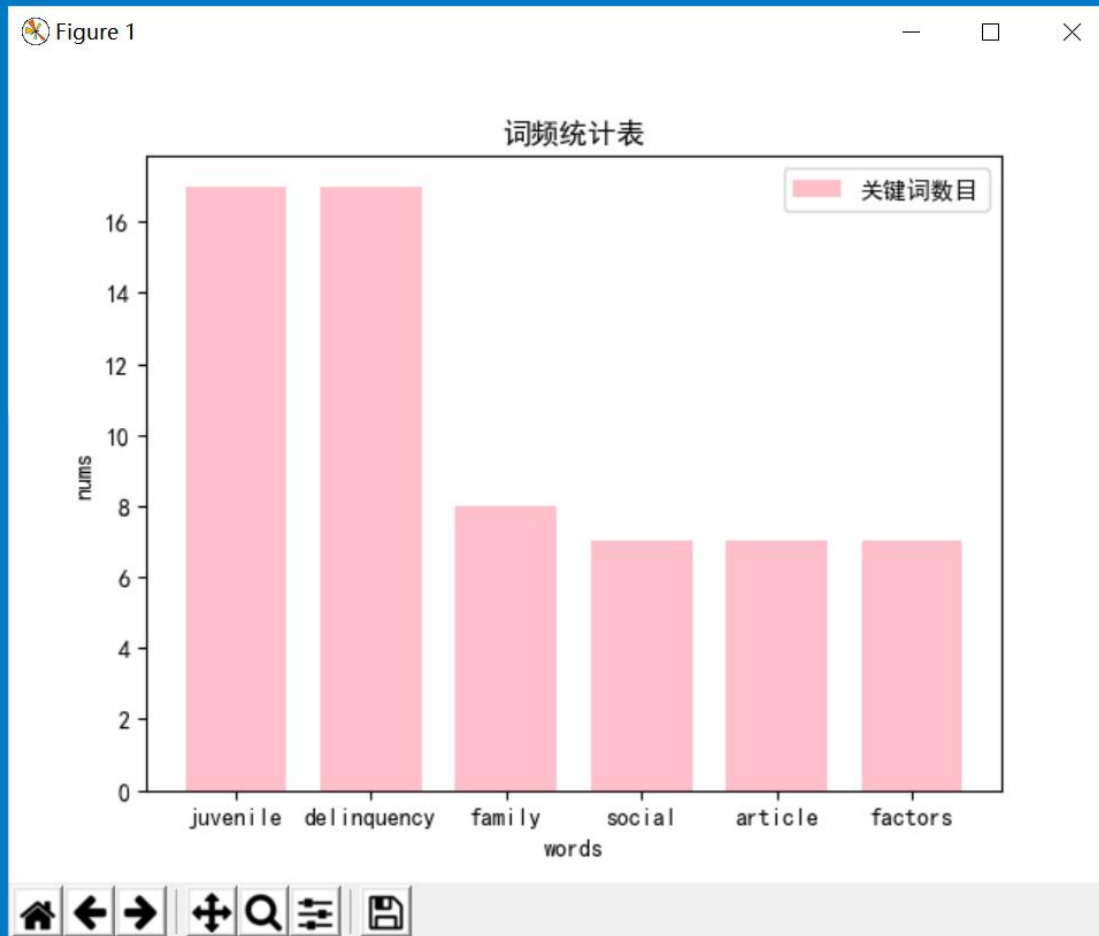
of	34
english	34
you	32
was	28
and	27
my	26
this	23
not	23
that	22
for	21
can	18
have	18
business	17
louis	16
will	16
he	14
think	14
class	13
must	13
but	13
we	13
which	12
your	12

字符统计: 9248

词数统计: 1813

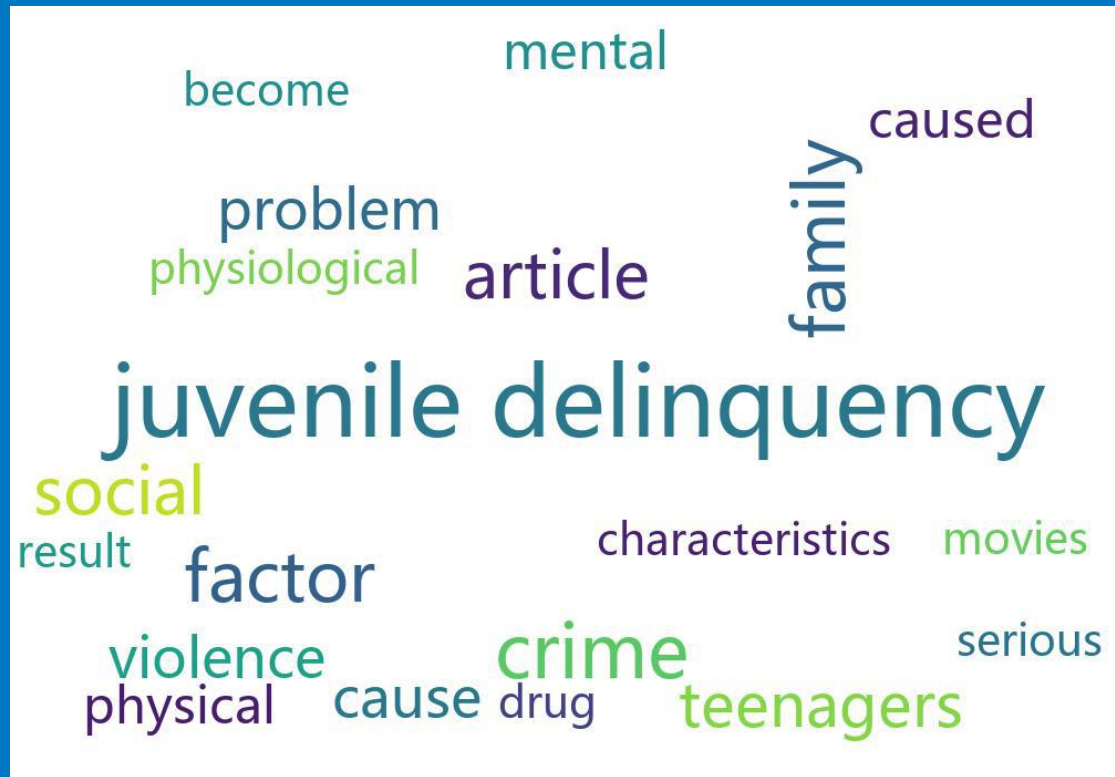
注:除保存文本&导入文本,其余对文本内容的操作需先保存,后分析

# 运行效果





# 运行效果





# 运行效果

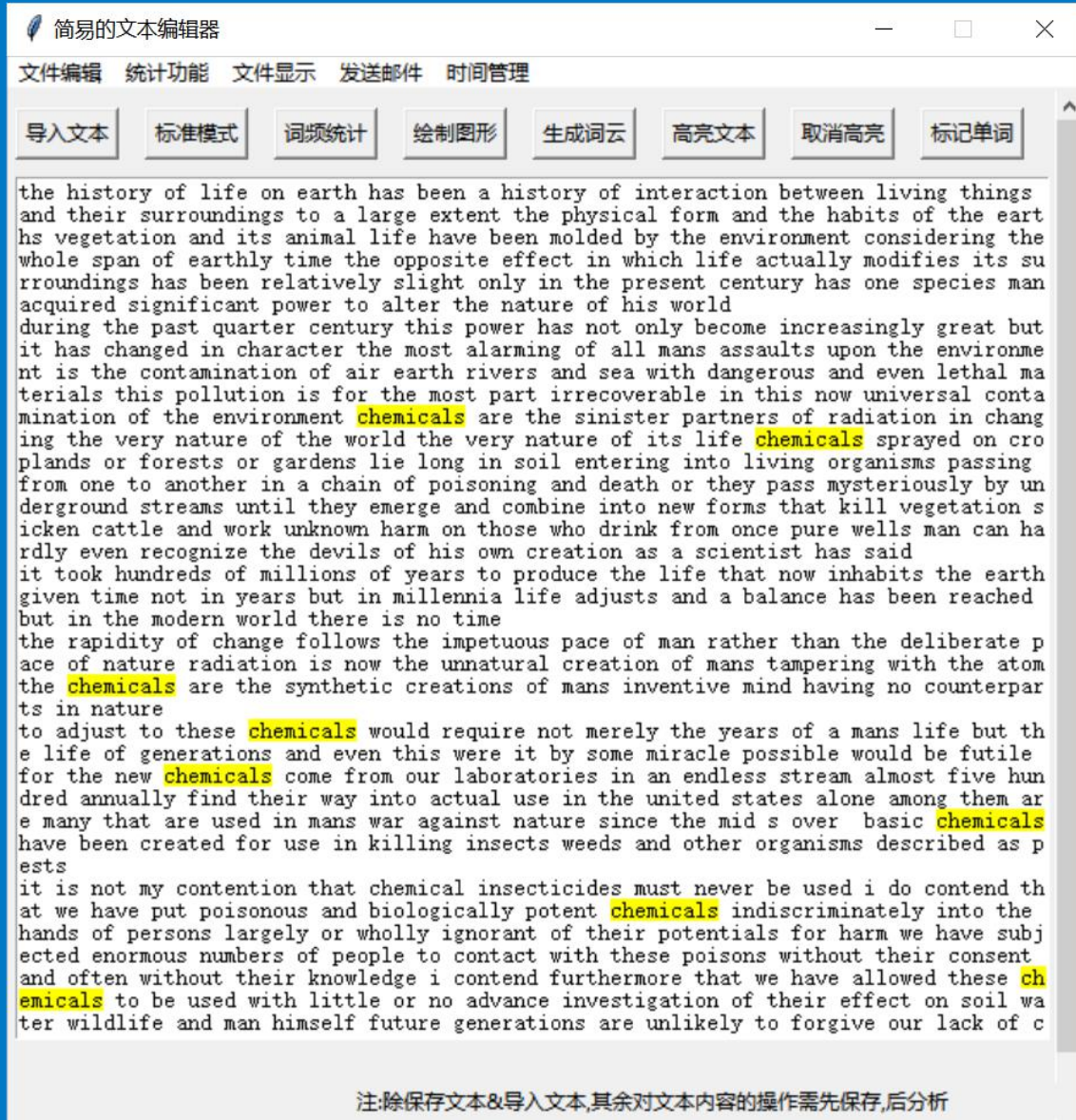


# 运行效果

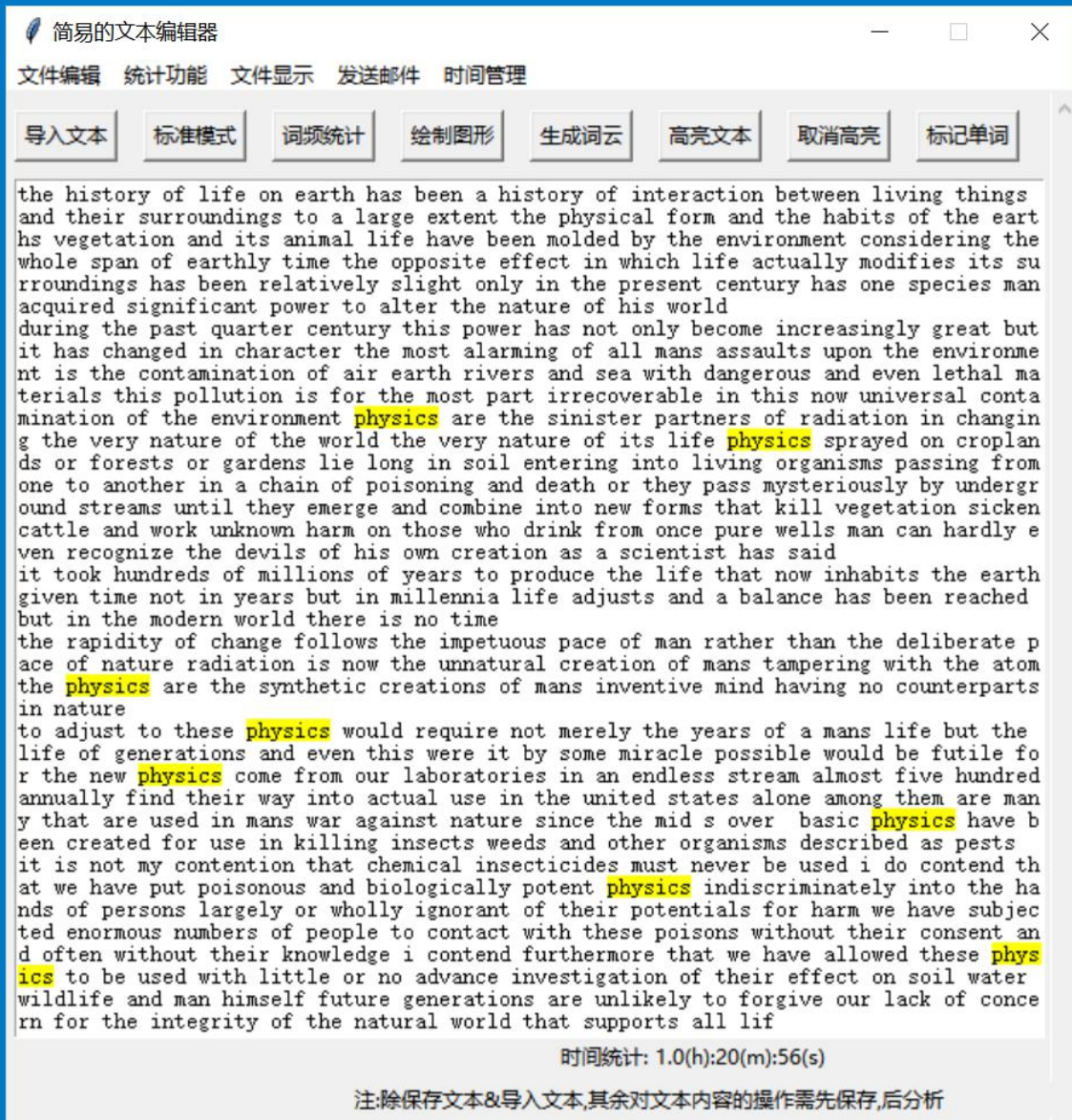




# 运行效果

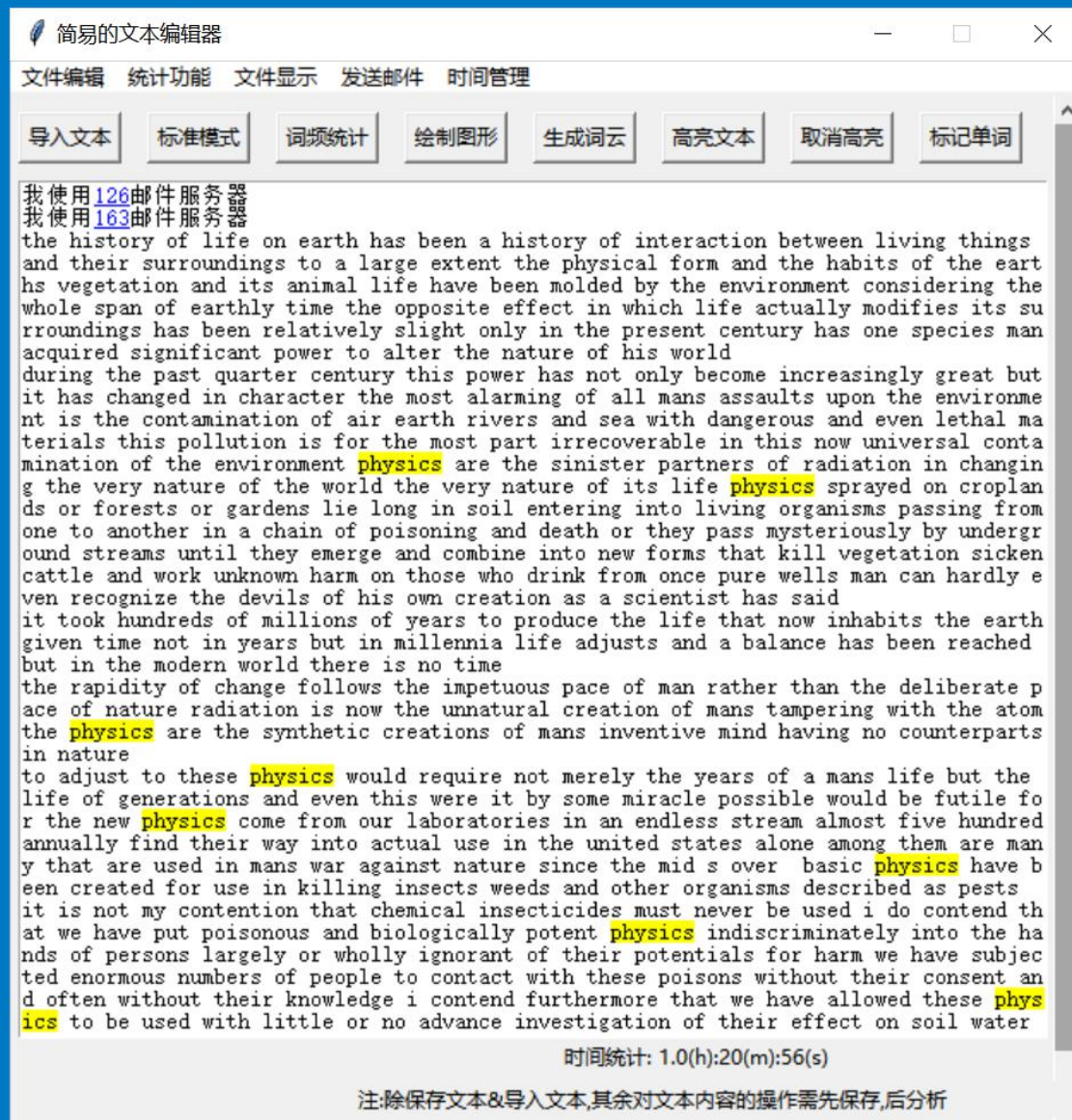


# 运行效果





# 运行效果






设计思路



关键语法



运行效果

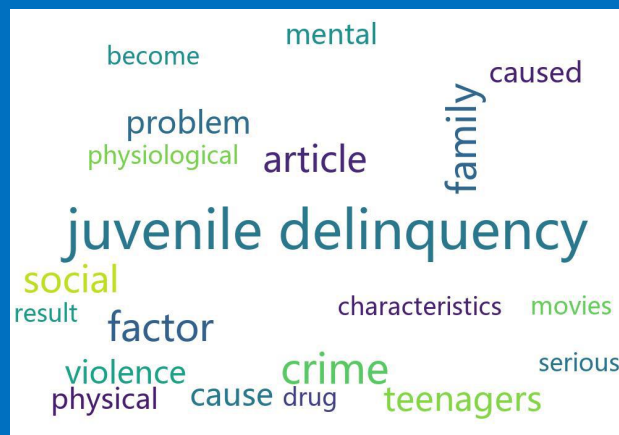
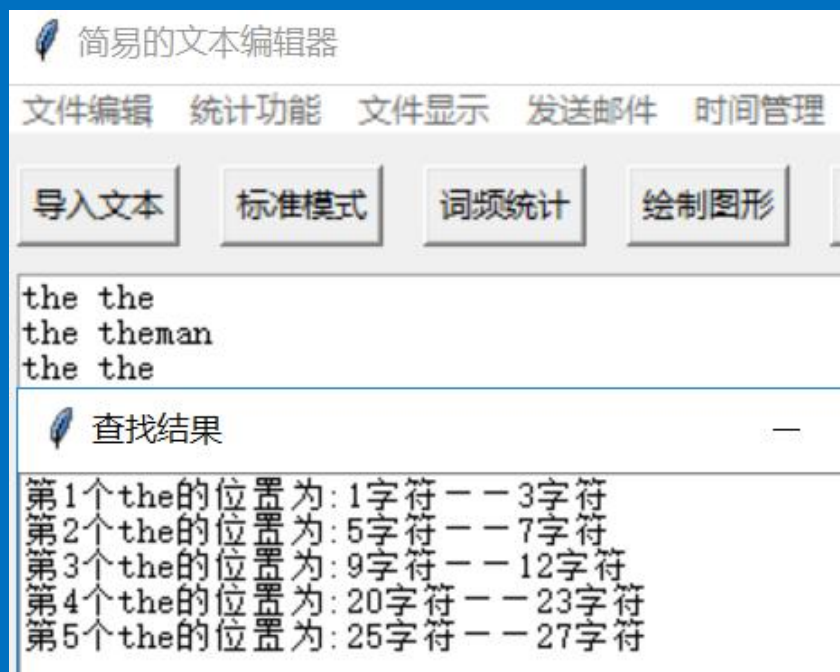


创新之处

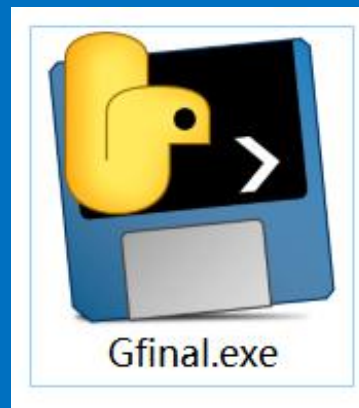


## 创新之处

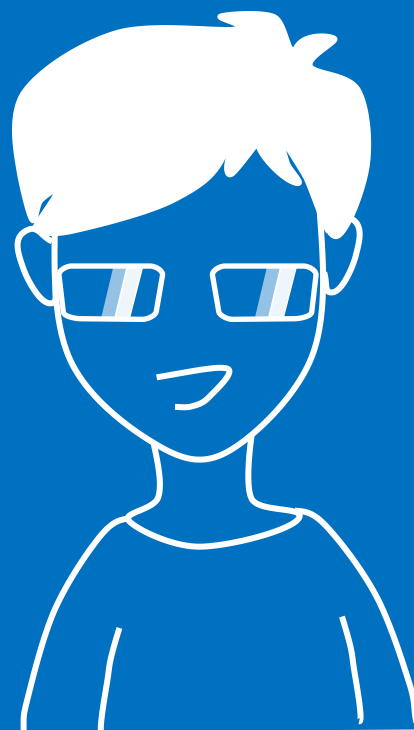
## 正则匹配



## 程序打包



谢谢大家!



庄嘉恒