МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РОССИЙСКОЙ ФЕДЕРАЦИИ
Федеральное государственное автономное образовательное учреждение высшего образования «Северо-Кавказский федеральный университет»

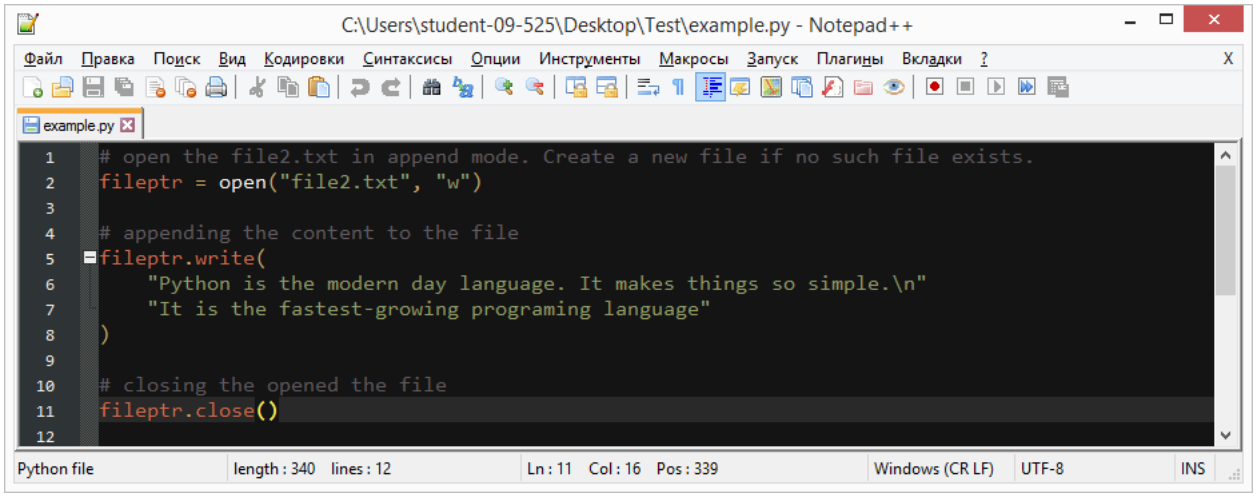
Отчет по лабораторной работе №15
Работа с файлами в языке Python

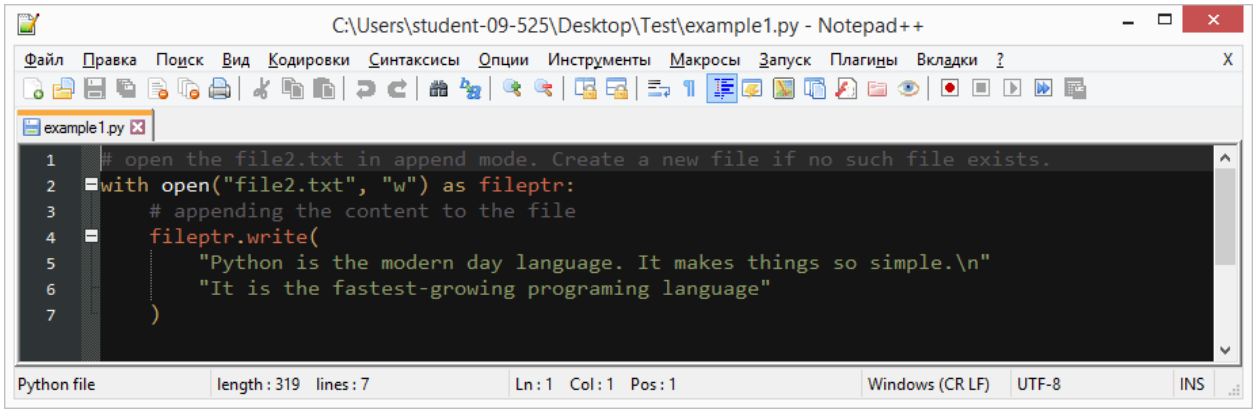
по дисциплине «Основы программной инженерии»

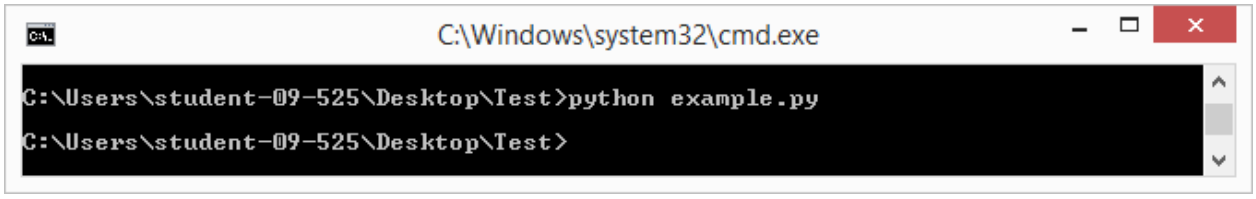
Выполнил студент группы ПИЖ-б-о-20-1
Симоненко А.С. « » 2022г.
Подпись студента_____
Работа защищена « »_____2022г.
Проверил Воронкин Р.А. _____
(подпись)

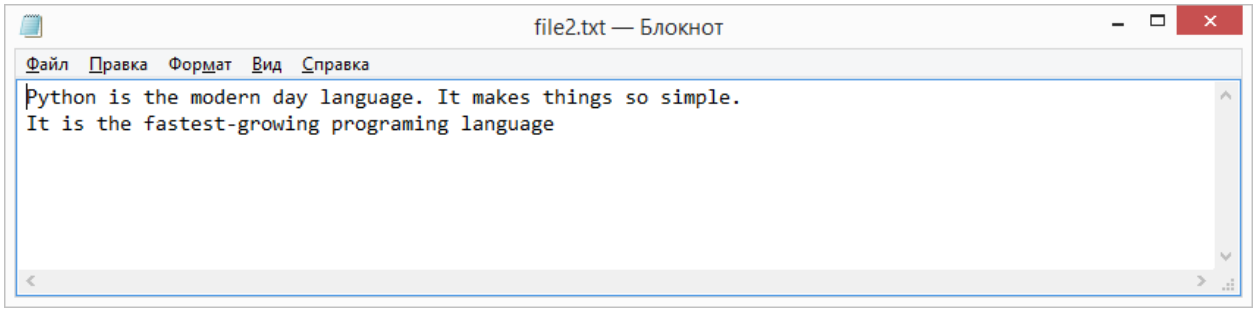
Ставрополь 2022

Пример 1.

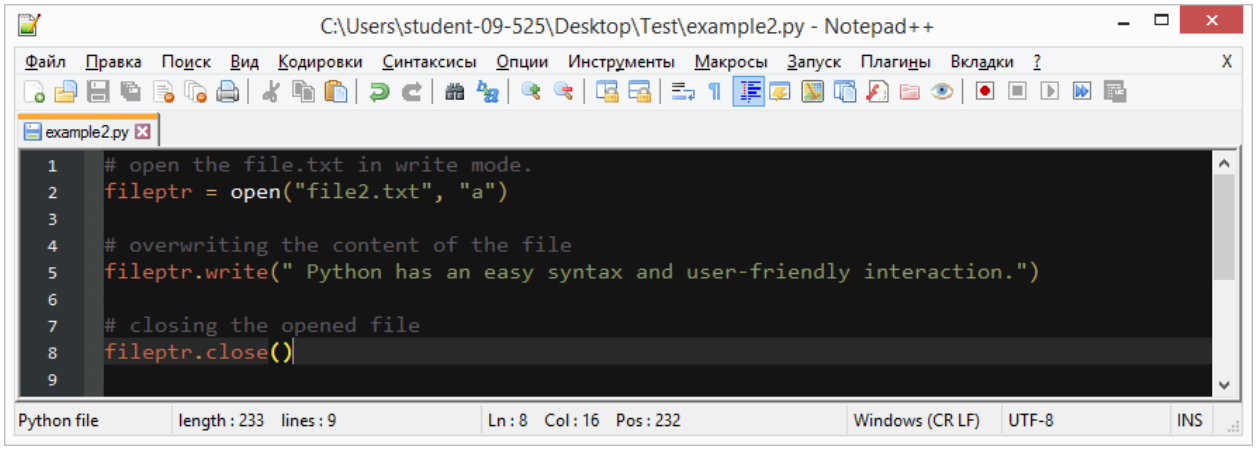

C:\Users\student-09-525\Desktop\Test\example.py - Notepad++
Файл Правка Поиск Вид Кодировки Синтаксисы Опции Инструменты Макросы Запуск Плагины Вкладки ?
example.py
1 # open the file2.txt in append mode. Create a new file if no such file exists.
2 fileptr = open("file2.txt", "w")
3
4 # appending the content to the file
5 fileptr.write(
6 "Python is the modern day language. It makes things so simple.\n"
7 "It is the fastest-growing programing language"
8)
9
10 # closing the opened the file
11 fileptr.close()
12
Python file length : 340 lines : 12 Ln : 11 Col : 16 Pos : 339 Windows (CR LF) UTF-8 INS

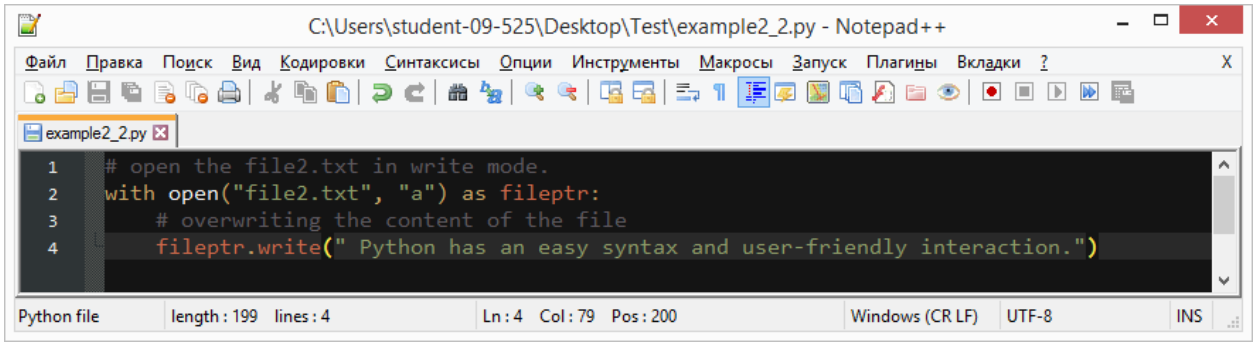

C:\Users\student-09-525\Desktop\Test\example1.py - Notepad++
Файл Правка Поиск Вид Кодировки Синтаксисы Опции Инструменты Макросы Запуск Плагины Вкладки ?
example1.py
1 # open the file2.txt in append mode. Create a new file if no such file exists.
2 with open("file2.txt", "w") as fileptr:
3 # appending the content to the file
4 fileptr.write(
5 "Python is the modern day language. It makes things so simple.\n"
6 "It is the fastest-growing programing language"
7)
Python file length : 319 lines : 7 Ln : 1 Col : 1 Pos : 1 Windows (CR LF) UTF-8 INS

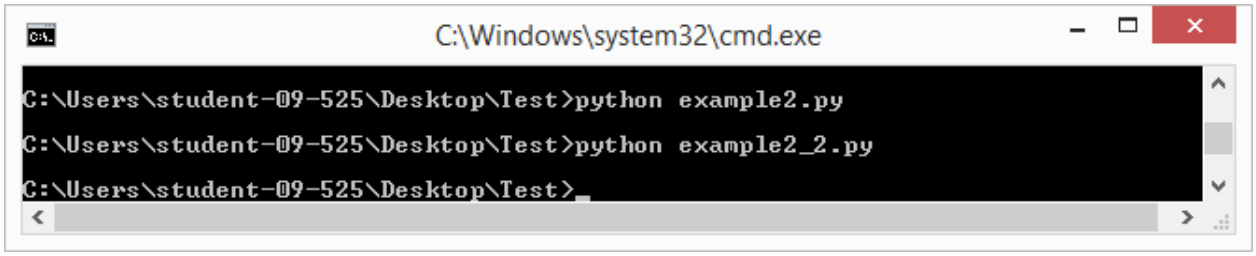

C:\Windows\system32\cmd.exe
C:\Users\student-09-525\Desktop\Test>python example.py
C:\Users\student-09-525\Desktop\Test>

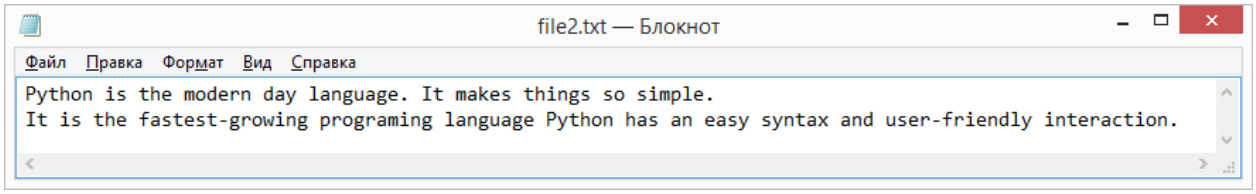

file2.txt — Блокнот
Файл Правка Формат Вид Справка
Python is the modern day language. It makes things so simple.
It is the fastest-growing programing language

Пример 2.

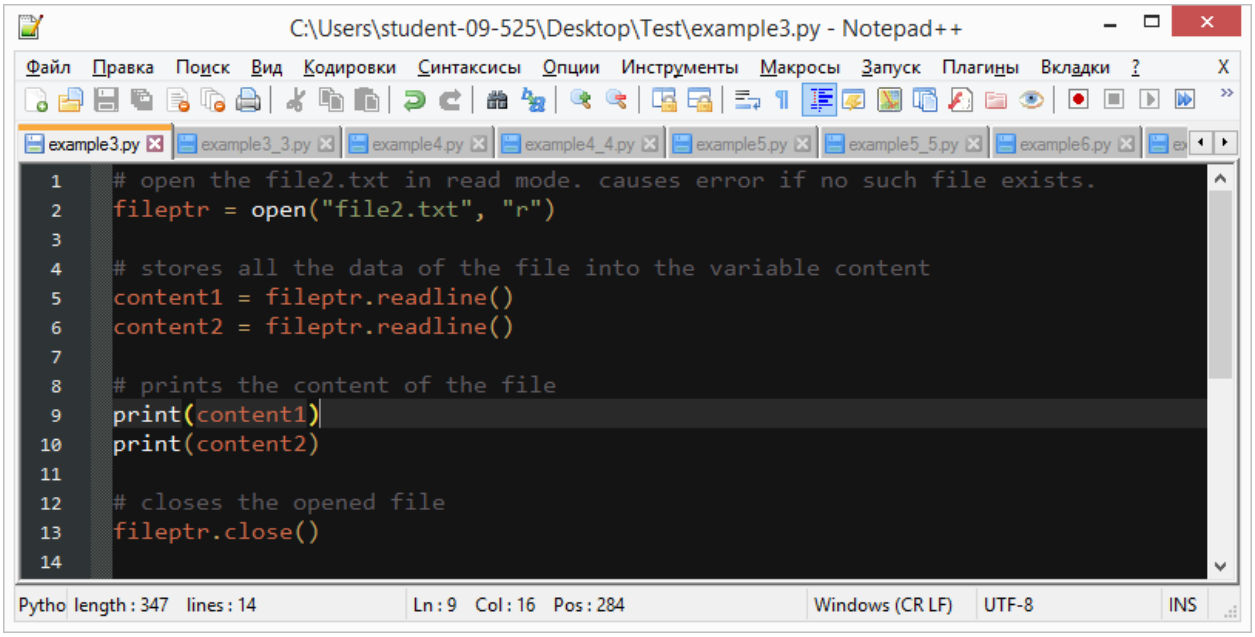

C:\Users\student-09-525\Desktop\Test\example2.py - Notepad++
Файл Правка Поиск Вид Кодировки Синтаксисы Опции Инструменты Макросы Запуск Плагины Вкладки ?
example2.py
1 # open the file.txt in write mode.
2 fileptr = open("file2.txt", "a")
3
4 # overwriting the content of the file
5 fileptr.write(" Python has an easy syntax and user-friendly interaction.")
6
7 # closing the opened file
8 fileptr.close()
9
Python file length : 233 lines : 9 Ln : 8 Col : 16 Pos : 232 Windows (CR LF) UTF-8 INS

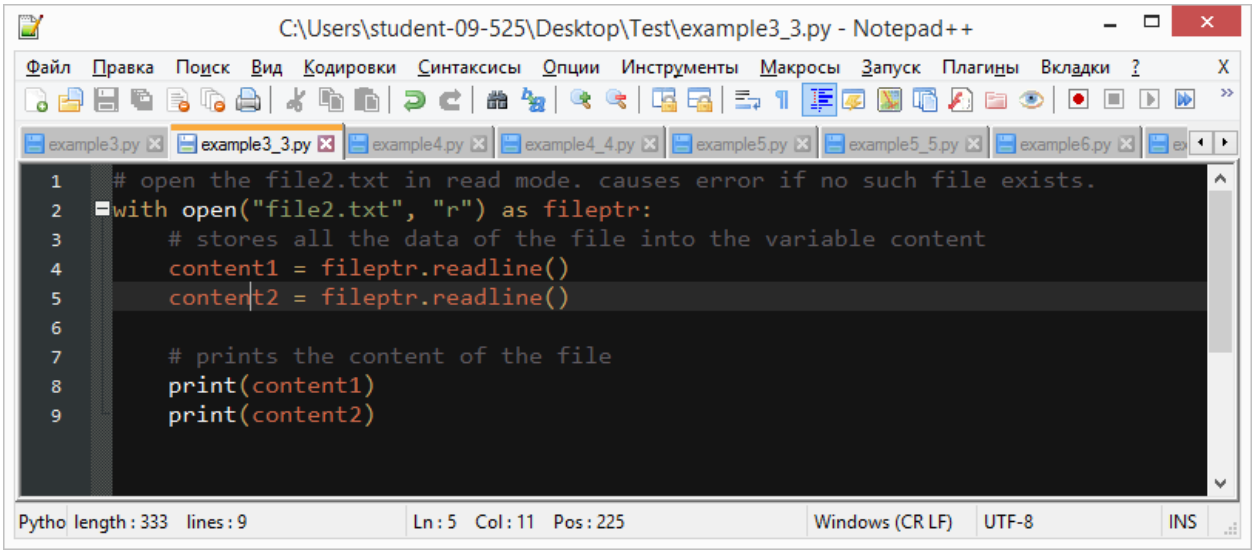

C:\Users\student-09-525\Desktop\Test\example2_2.py - Notepad++
Файл Правка Поиск Вид Кодировки Синтаксисы Опции Инструменты Макросы Запуск Плагины Вкладки ?
example2_2.py
1 # open the file2.txt in write mode.
2 with open("file2.txt", "a") as fileptr:
3 # overwriting the content of the file
4 fileptr.write(" Python has an easy syntax and user-friendly interaction.")
Python file length : 199 lines : 4 Ln : 4 Col : 79 Pos : 200 Windows (CR LF) UTF-8 INS

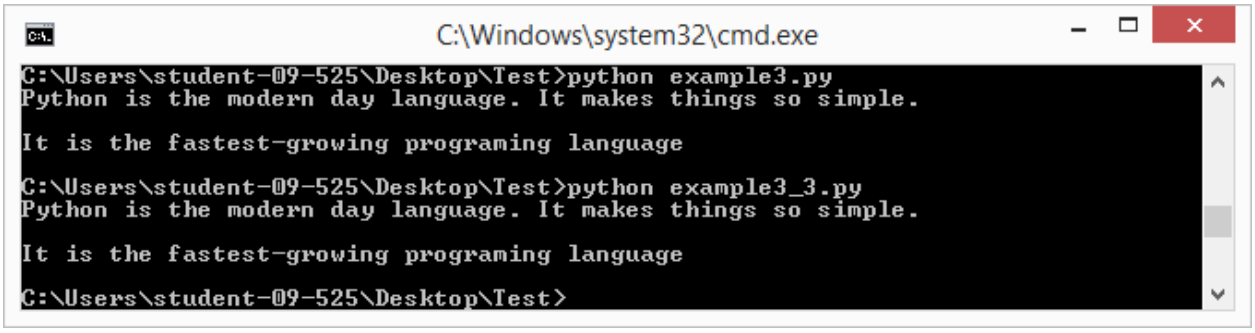

C:\Windows\system32\cmd.exe
C:\Users\student-09-525\Desktop\Test>python example2.py
C:\Users\student-09-525\Desktop\Test>python example2_2.py
C:\Users\student-09-525\Desktop\Test>


file2.txt — Блокнот
Файл Правка Формат Вид Справка
Python is the modern day language. It makes things so simple.
It is the fastest-growing programing language Python has an easy syntax and user-friendly interaction.

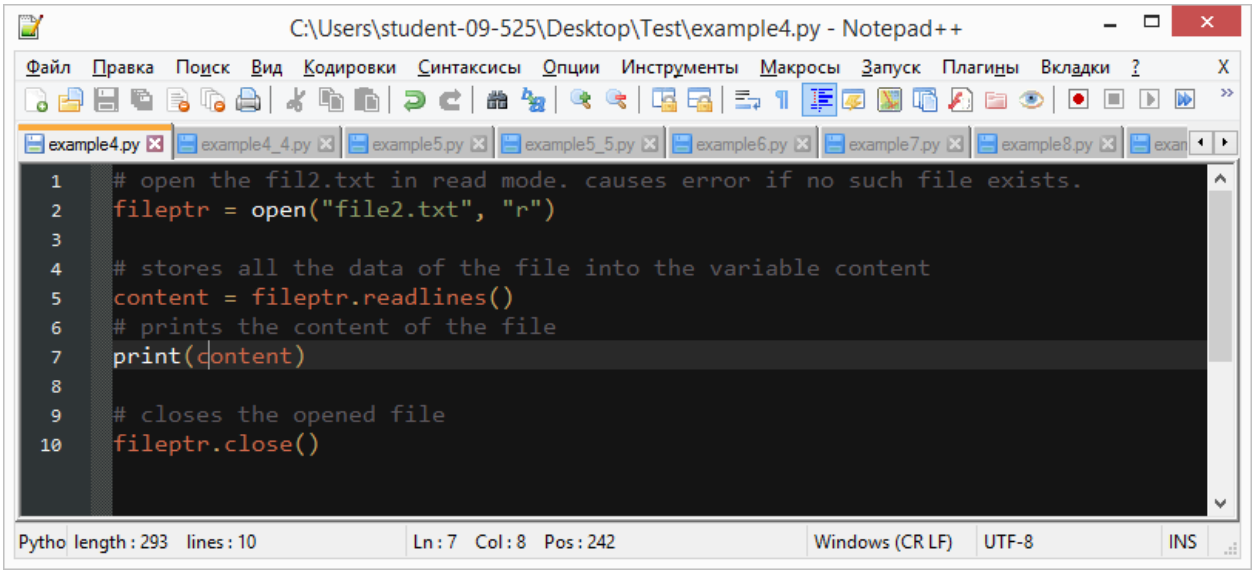
Пример 3

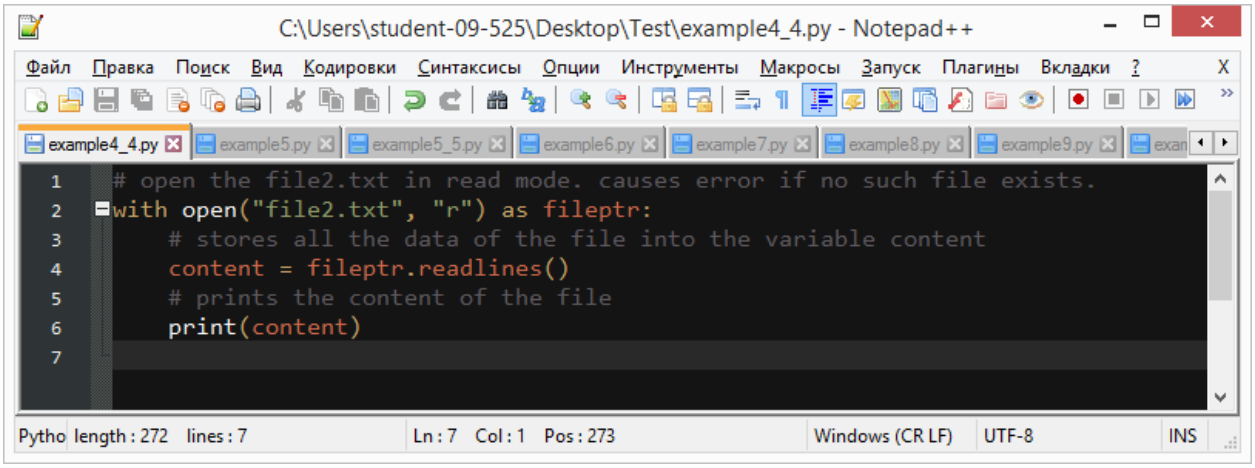

C:\Users\student-09-525\Desktop\Test\example3.py - Notepad++
Файл Правка Поиск Вид Кодировки Синтаксисы Опции Инструменты Макросы Запуск Плагины Вкладки ?
example3.py
example3_3.py
example4.py
example4_4.py
example5.py
example5_5.py
example6.py
1 # open the file2.txt in read mode. causes error if no such file exists.
2 fileptr = open("file2.txt", "r")
3
4 # stores all the data of the file into the variable content
5 content1 = fileptr.readline()
6 content2 = fileptr.readline()
7
8 # prints the content of the file
9 print(content1)
10 print(content2)
11
12 # closes the opened file
13 fileptr.close()
14
Pytho length : 347 lines : 14
Ln : 9 Col : 16 Pos : 284
Windows (CR LF)
UTF-8
INS

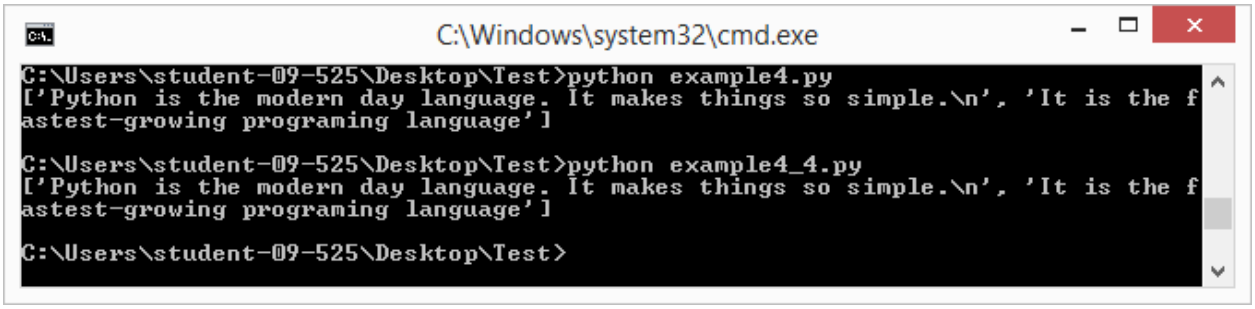

C:\Users\student-09-525\Desktop\Test\example3_3.py - Notepad++
Файл Правка Поиск Вид Кодировки Синтаксисы Опции Инструменты Макросы Запуск Плагины Вкладки ?
example3.py
example3_3.py
example4.py
example4_4.py
example5.py
example5_5.py
example6.py
1 # open the file2.txt in read mode. causes error if no such file exists.
2 with open("file2.txt", "r") as fileptr:
3 # stores all the data of the file into the variable content
4 content1 = fileptr.readline()
5 content2 = fileptr.readline()
6
7 # prints the content of the file
8 print(content1)
9 print(content2)
Pytho length : 333 lines : 9
Ln : 5 Col : 11 Pos : 225
Windows (CR LF)
UTF-8
INS


C:\Windows\system32\cmd.exe
C:\Users\student-09-525\Desktop\Test>python example3.py
Python is the modern day language. It makes things so simple.
It is the fastest-growing programing language
C:\Users\student-09-525\Desktop\Test>python example3_3.py
Python is the modern day language. It makes things so simple.
It is the fastest-growing programing language
C:\Users\student-09-525\Desktop\Test>

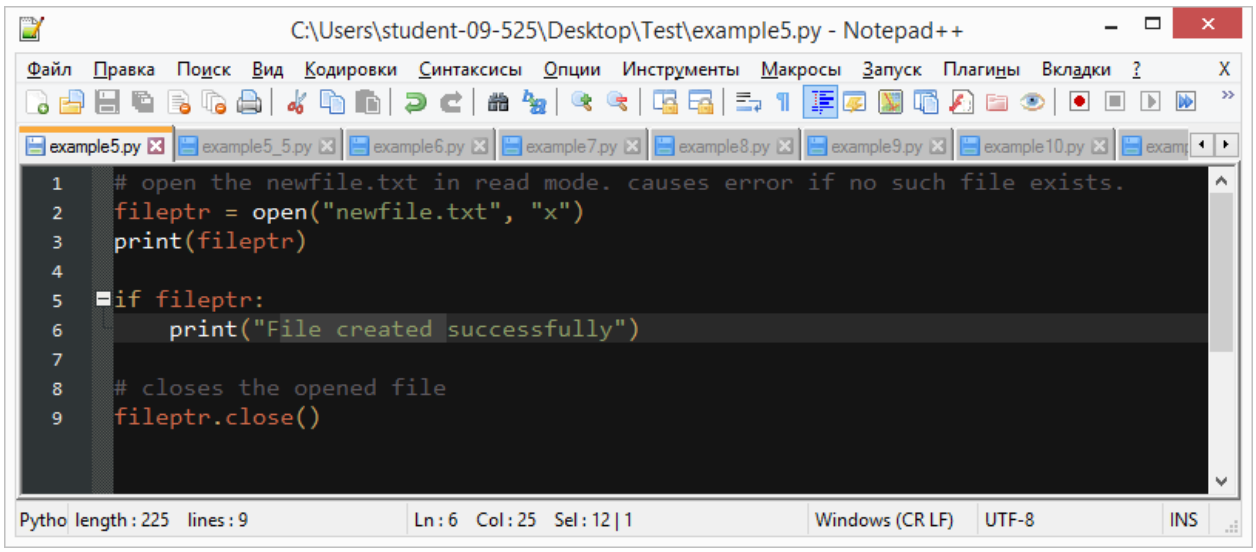
Пример 4

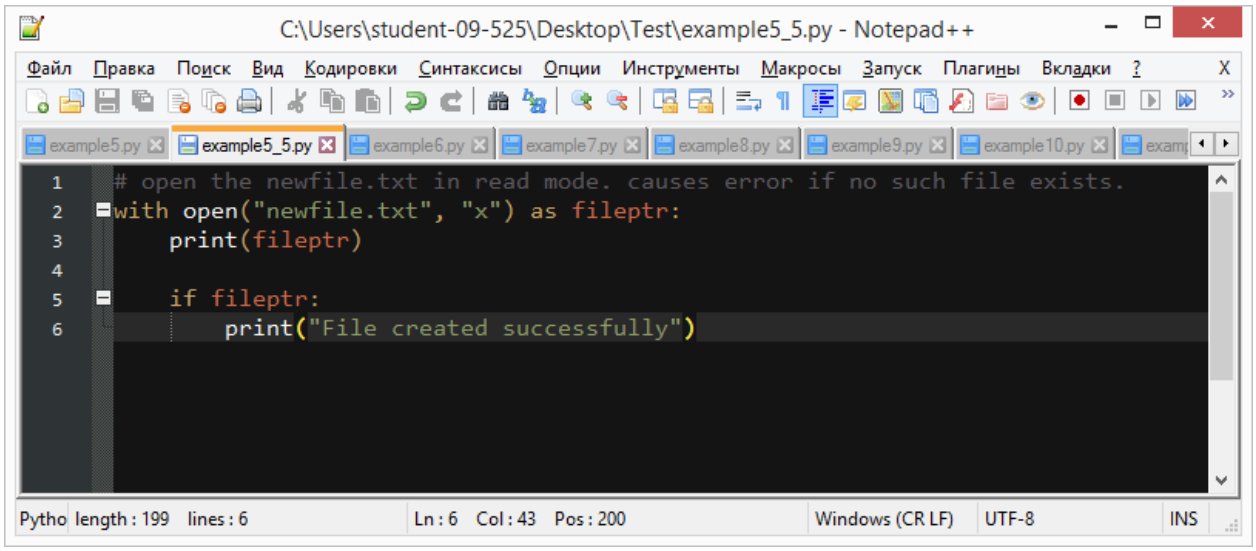


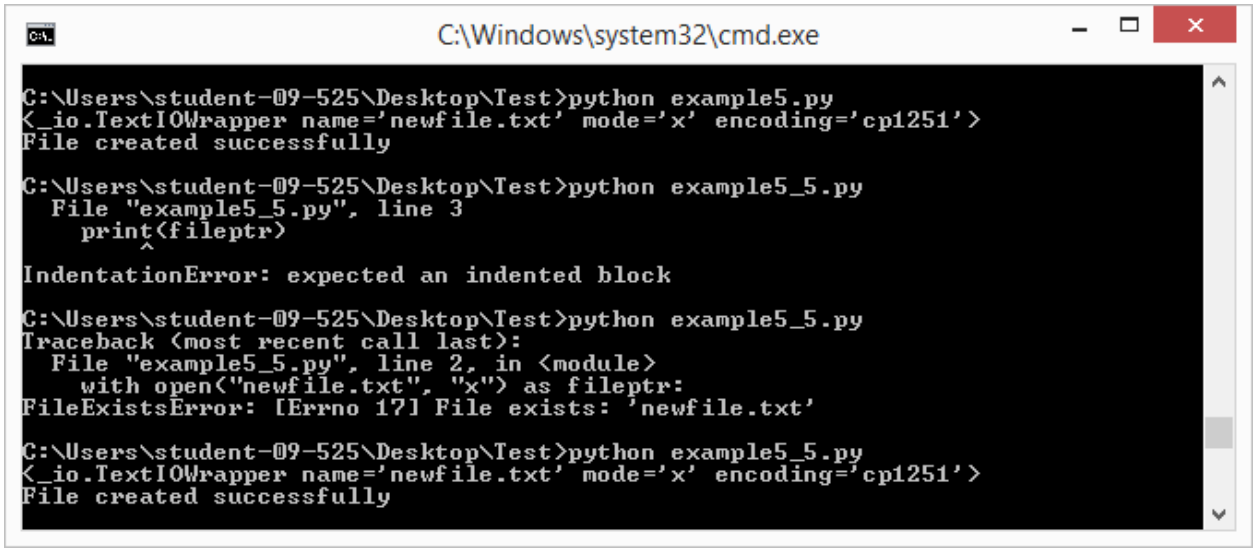




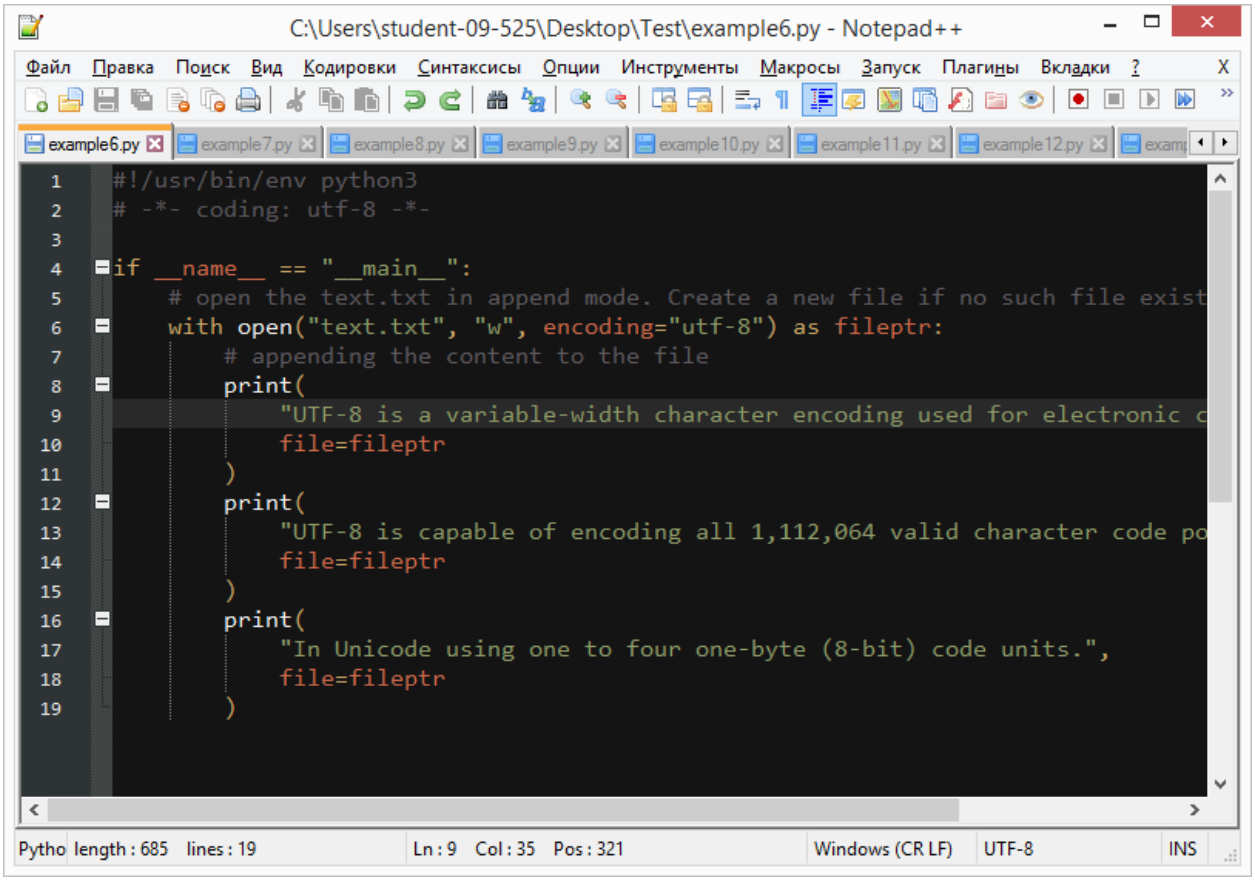
Пример 5

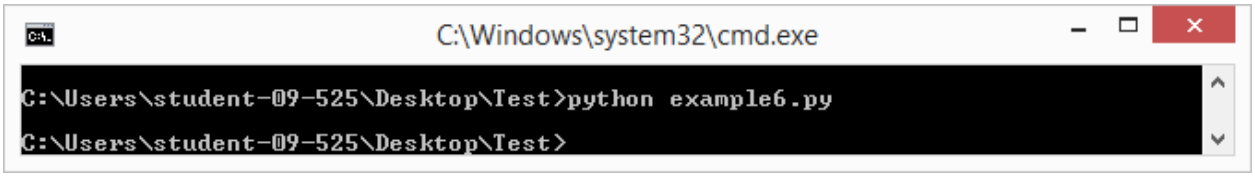

C:\Users\student-09-525\Desktop\Test\example5.py - Notepad++
Файл Правка Поиск Вид Кодировки Синтаксисы Опции Инструменты Макросы Запуск Плагины Вкладки ?
example5.py
example5_5.py
example6.py
example7.py
example8.py
example9.py
example10.py
1 # open the newfile.txt in read mode. causes error if no such file exists.
2 fileptr = open("newfile.txt", "x")
3 print(fileptr)
4
5 if fileptr:
6 print("File created successfully")
7
8 # closes the opened file
9 fileptr.close()
Pytho length : 225 lines : 9
Ln : 6 Col : 25 Sel : 12 | 1
Windows (CR LF)
UTF-8
INS

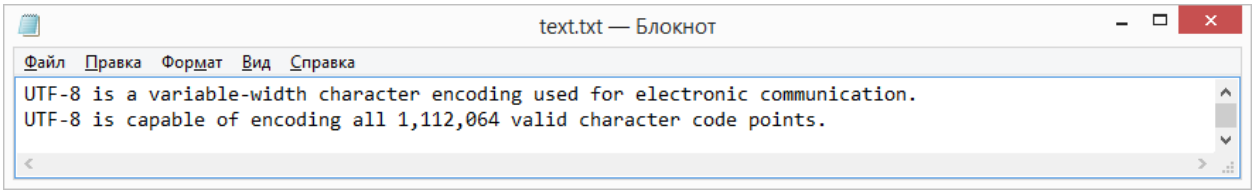

C:\Users\student-09-525\Desktop\Test\example5_5.py - Notepad++
Файл Правка Поиск Вид Кодировки Синтаксисы Опции Инструменты Макросы Запуск Плагины Вкладки ?
example5.py
example5_5.py
example6.py
example7.py
example8.py
example9.py
example10.py
1 # open the newfile.txt in read mode. causes error if no such file exists.
2 with open("newfile.txt", "x") as fileptr:
3 print(fileptr)
4
5 if fileptr:
6 print("File created successfully")
Pytho length : 199 lines : 6
Ln : 6 Col : 43 Pos : 200
Windows (CR LF)
UTF-8
INS


C:\Windows\system32\cmd.exe
C:\Users\student-09-525\Desktop\Test>python example5.py
<_io.TextIOWrapper name='newfile.txt' mode='x' encoding='cp1251'>
File created successfully
C:\Users\student-09-525\Desktop\Test>python example5_5.py
File "example5_5.py", line 3
print(fileptr)
^
IndentationError: expected an indented block
C:\Users\student-09-525\Desktop\Test>python example5_5.py
Traceback (most recent call last):
File "example5_5.py", line 2, in <module>
with open("newfile.txt", "x") as fileptr:
FileExistsError: [Errno 17] File exists: 'newfile.txt'
C:\Users\student-09-525\Desktop\Test>python example5_5.py
<_io.TextIOWrapper name='newfile.txt' mode='x' encoding='cp1251'>
File created successfully

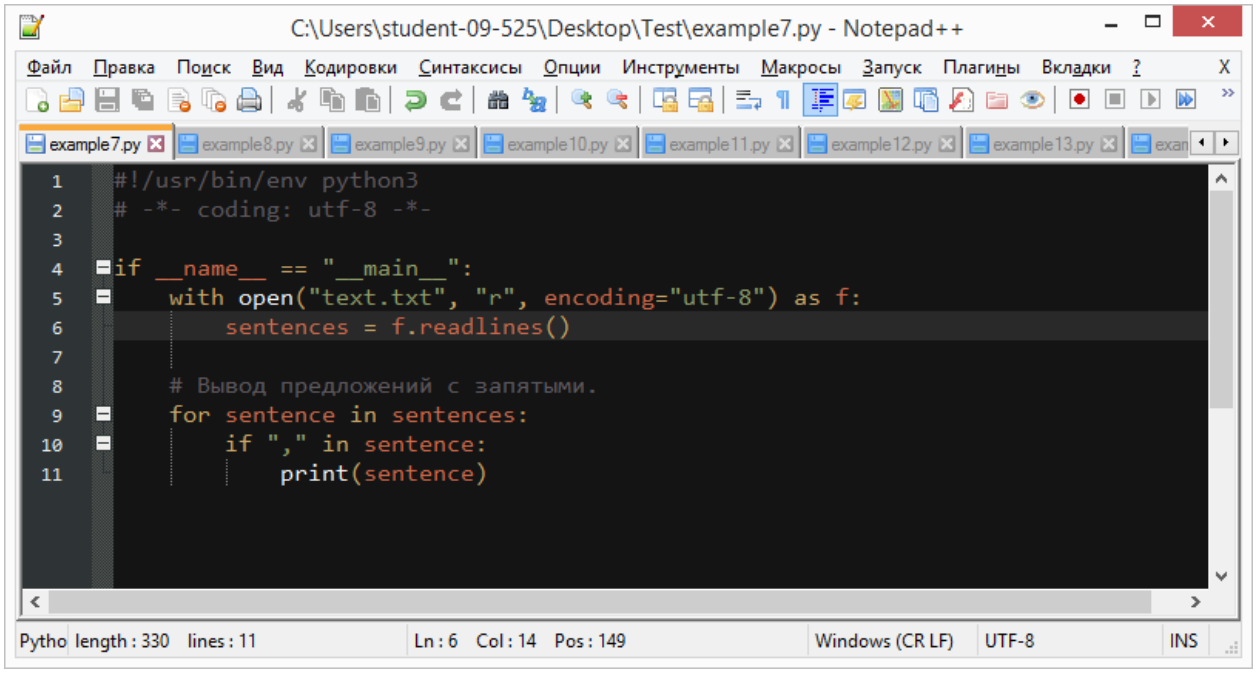
Пример 6

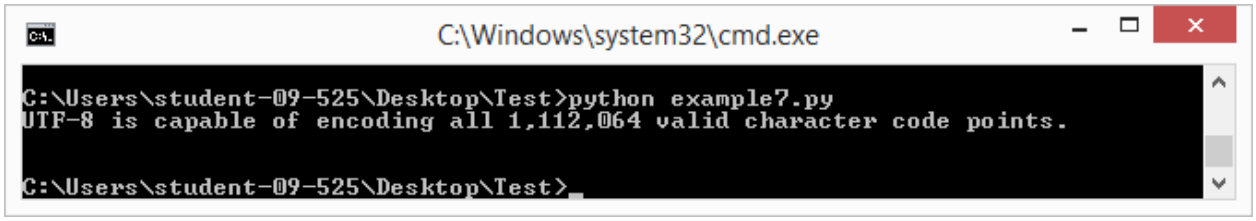

C:\Users\student-09-525\Desktop\Test\example6.py - Notepad++
Файл Правка Поиск Вид Кодировки Синтаксисы Опции Инструменты Макросы Запуск Плагины Вкладки ?
example6.py
example7.py
example8.py
example9.py
example10.py
example11.py
example12.py
#!/usr/bin/env python3
# -*- coding: utf-8 -*-
if __name__ == "__main__":
# open the text.txt in append mode. Create a new file if no such file exist
with open("text.txt", "w", encoding="utf-8") as fileptr:
appending the content to the file
print(
"UTF-8 is a variable-width character encoding used for electronic c
file=fileptr
)
print(
"UTF-8 is capable of encoding all 1,112,064 valid character code po
file=fileptr
)
print(
"In Unicode using one to four one-byte (8-bit) code units.",
file=fileptr
)
Pytho length : 685 lines : 19
Ln : 9 Col : 35 Pos : 321
Windows (CR LF)
UTF-8
INS


C:\Windows\system32\cmd.exe
C:\Users\student-09-525\Desktop\Test>python example6.py
C:\Users\student-09-525\Desktop\Test>

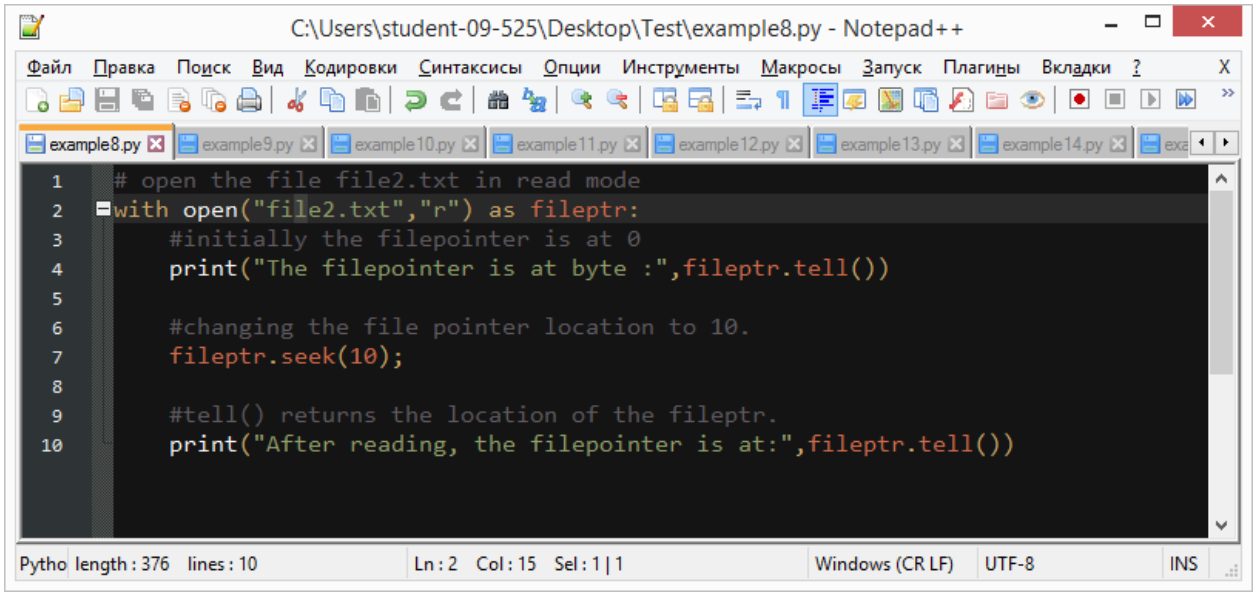

text.txt — Блокнот
Файл Правка Формат Вид Справка
UTF-8 is a variable-width character encoding used for electronic communication.
UTF-8 is capable of encoding all 1,112,064 valid character code points.

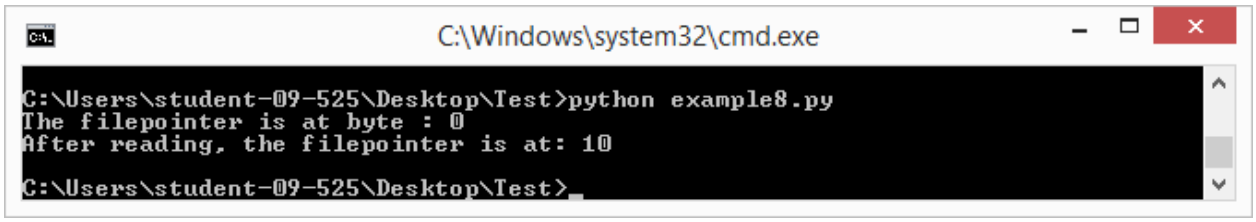
Пример 7



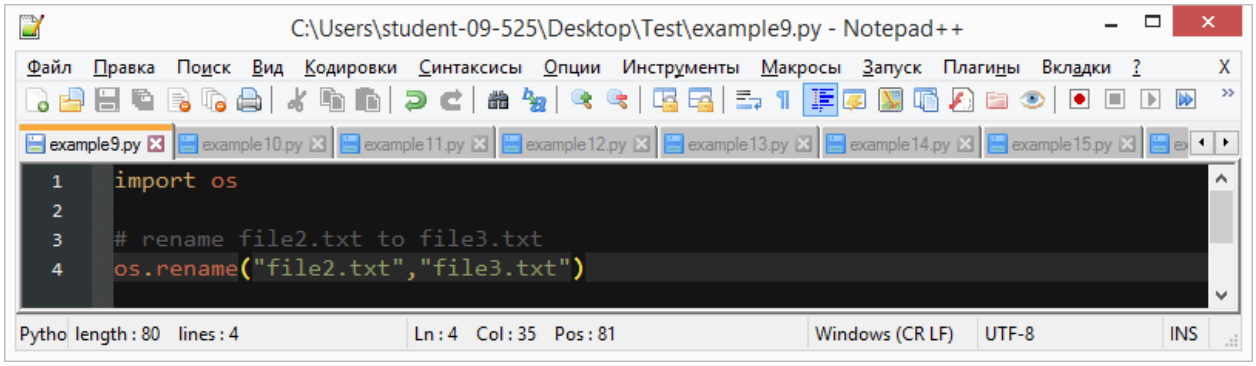


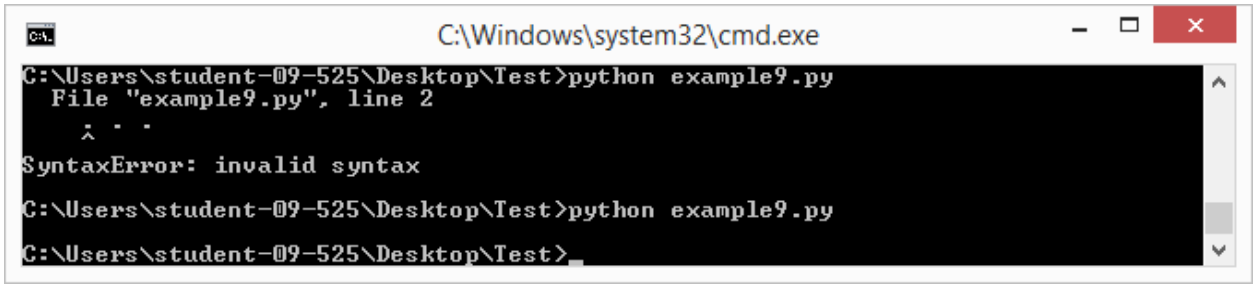
Пример 8



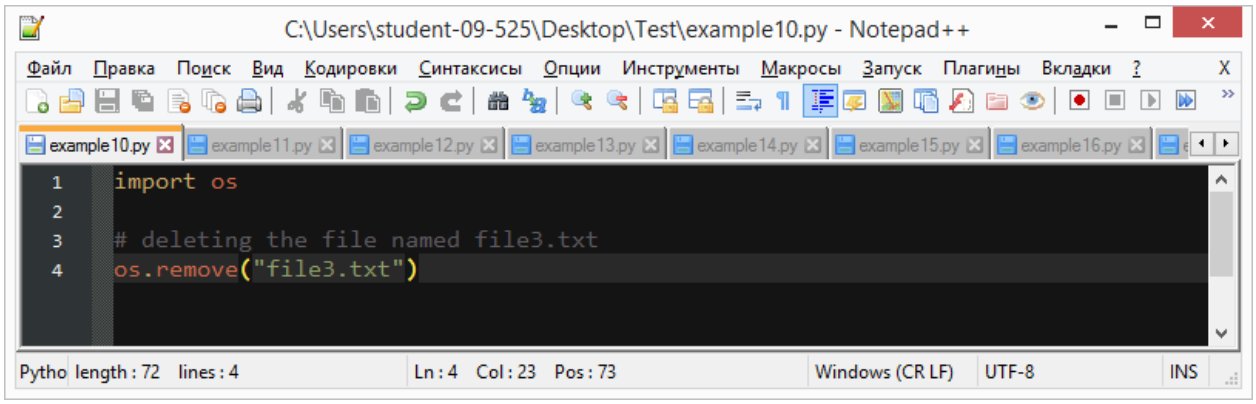


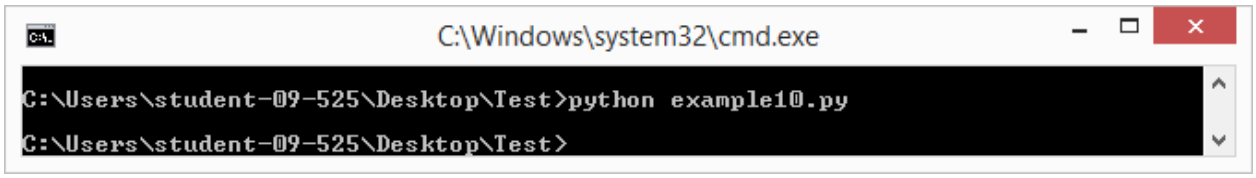
Пример 9



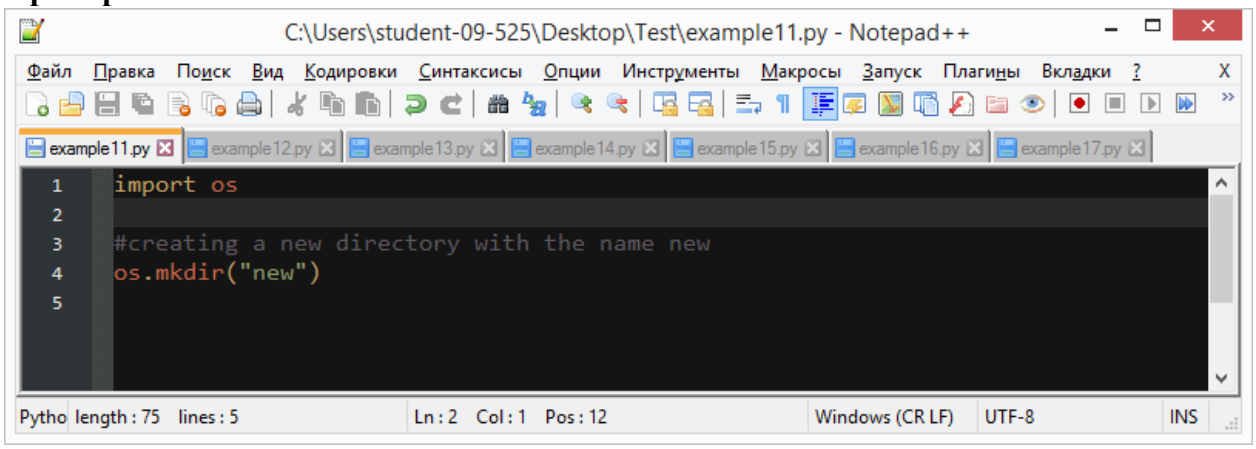


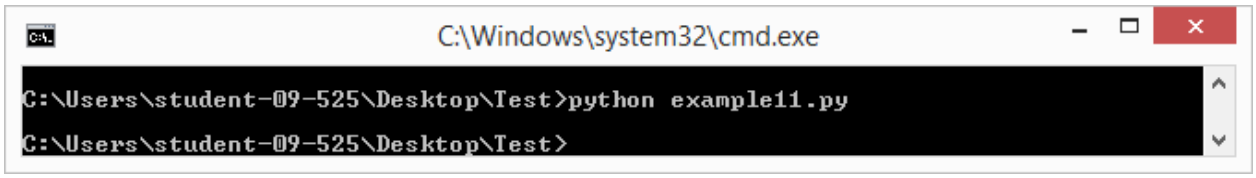
Пример 10

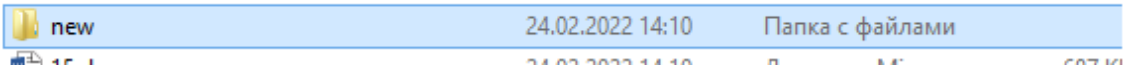




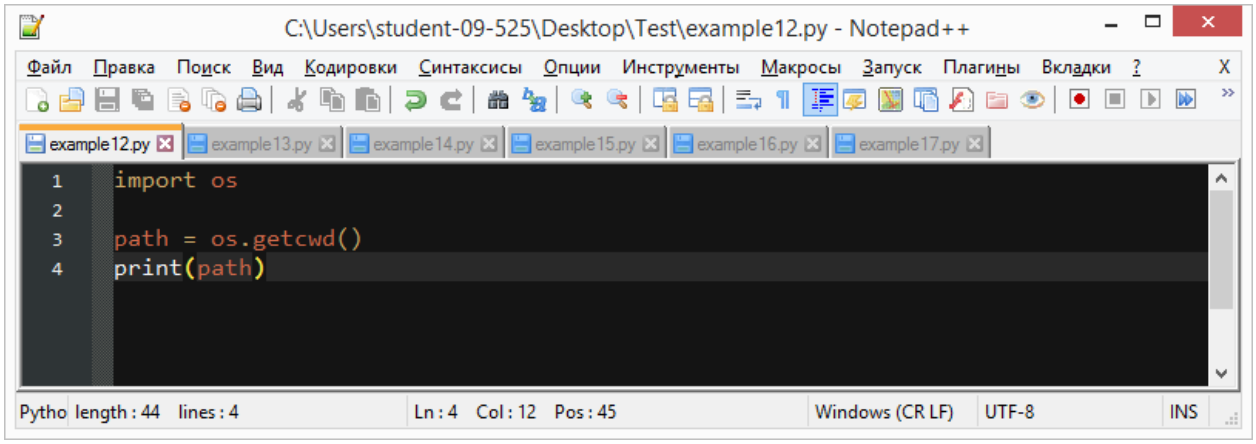
Пример 11

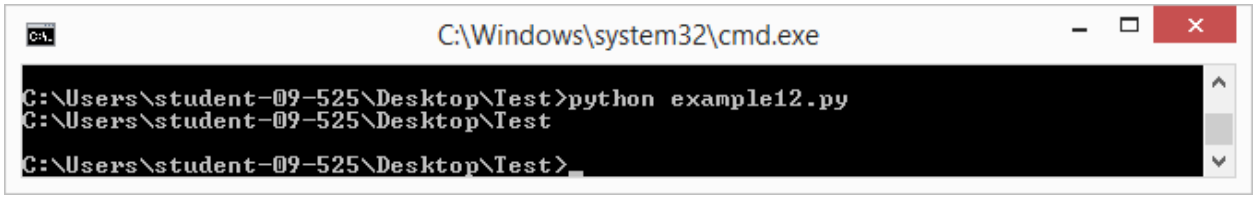




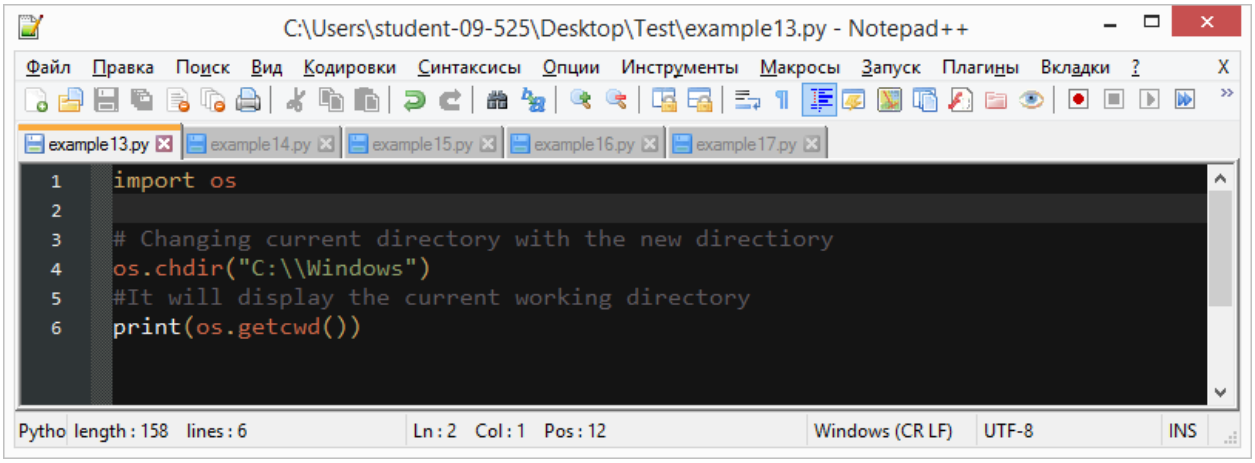


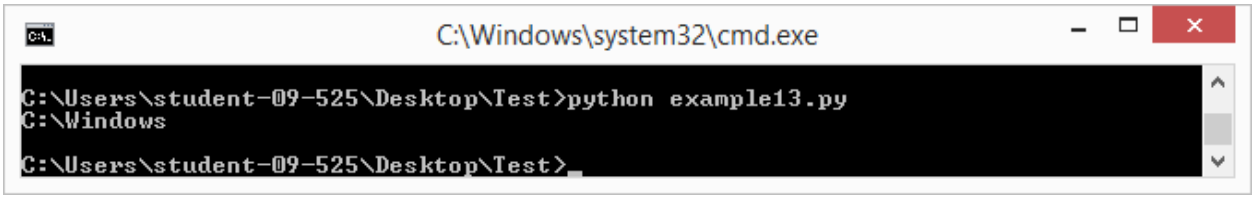
Пример 12



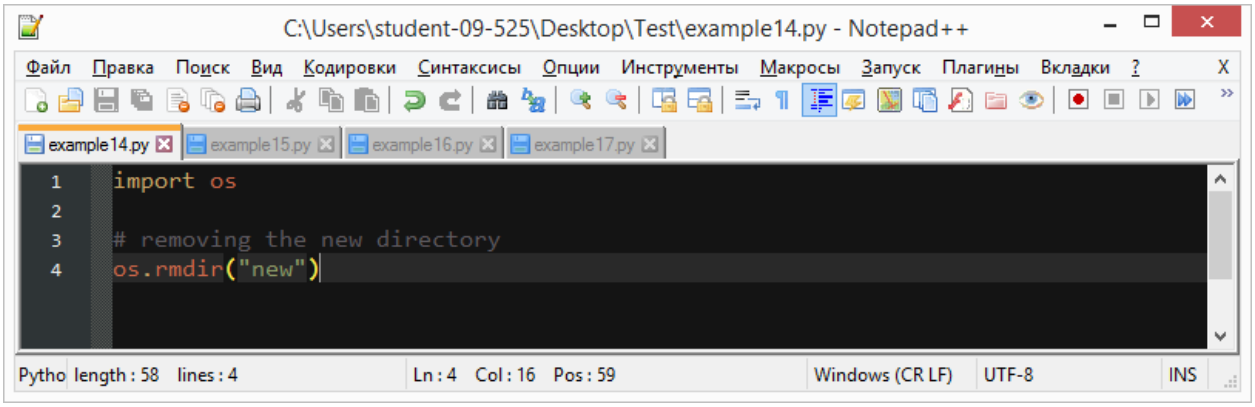


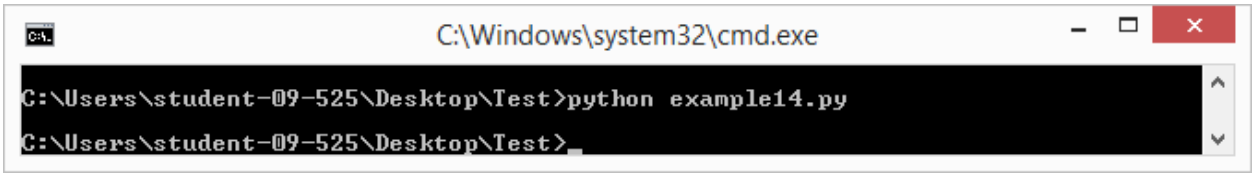
Пример 13



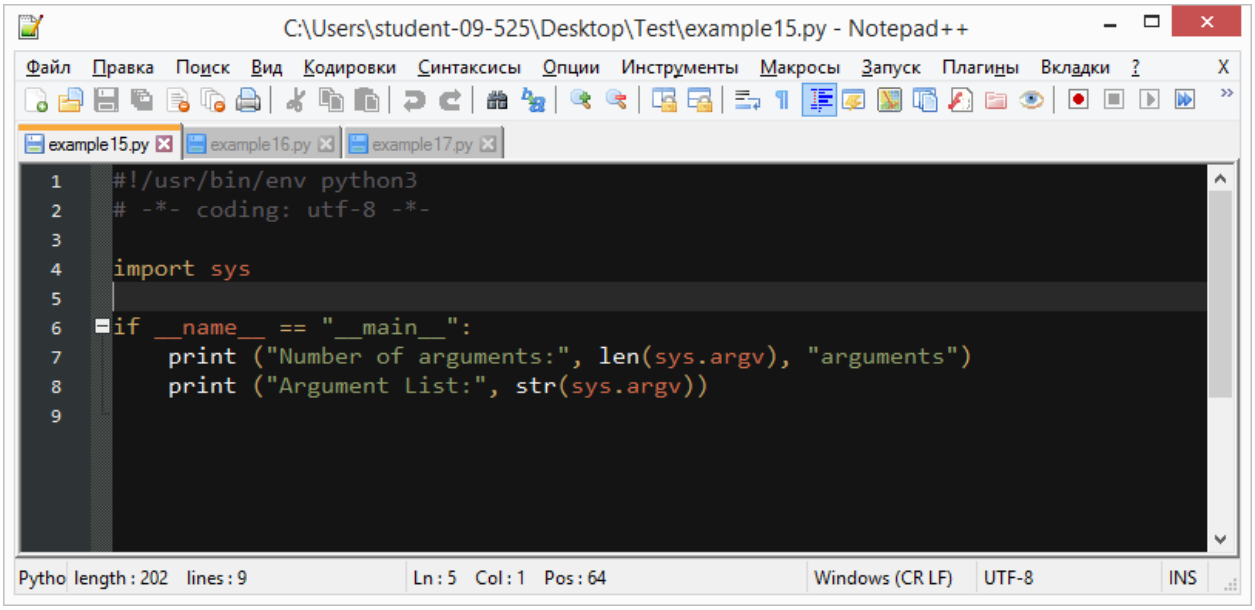


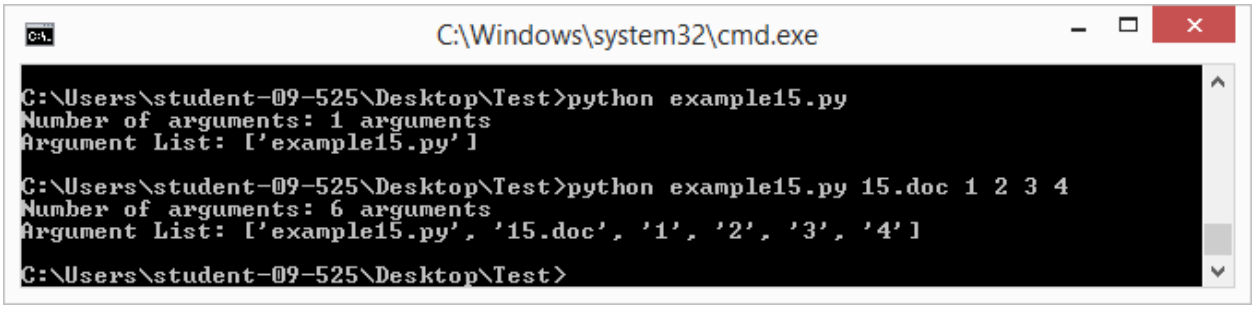
Пример 14



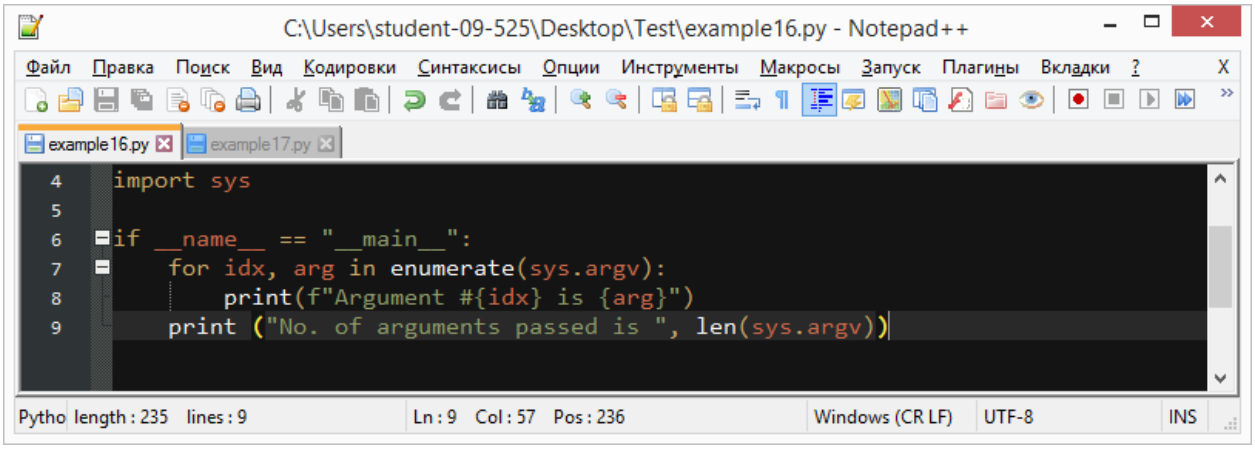


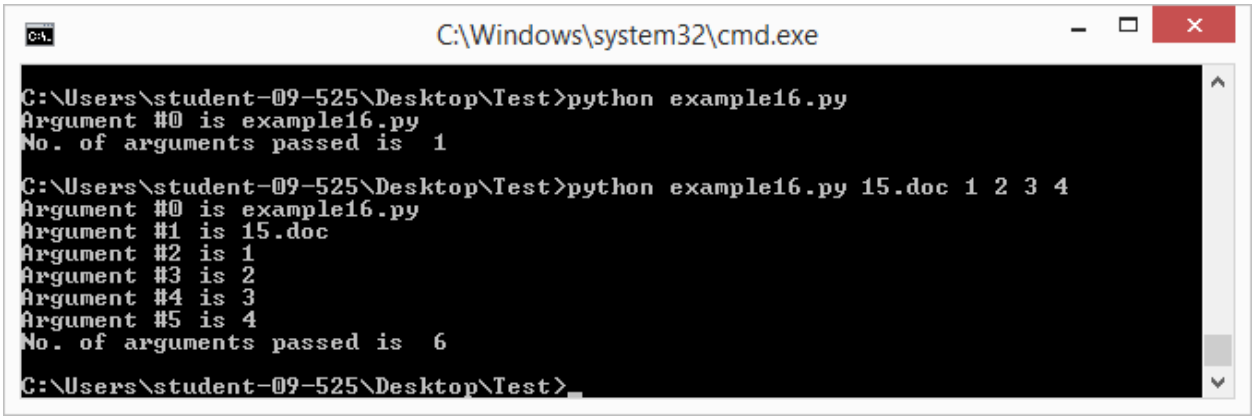
Пример 15



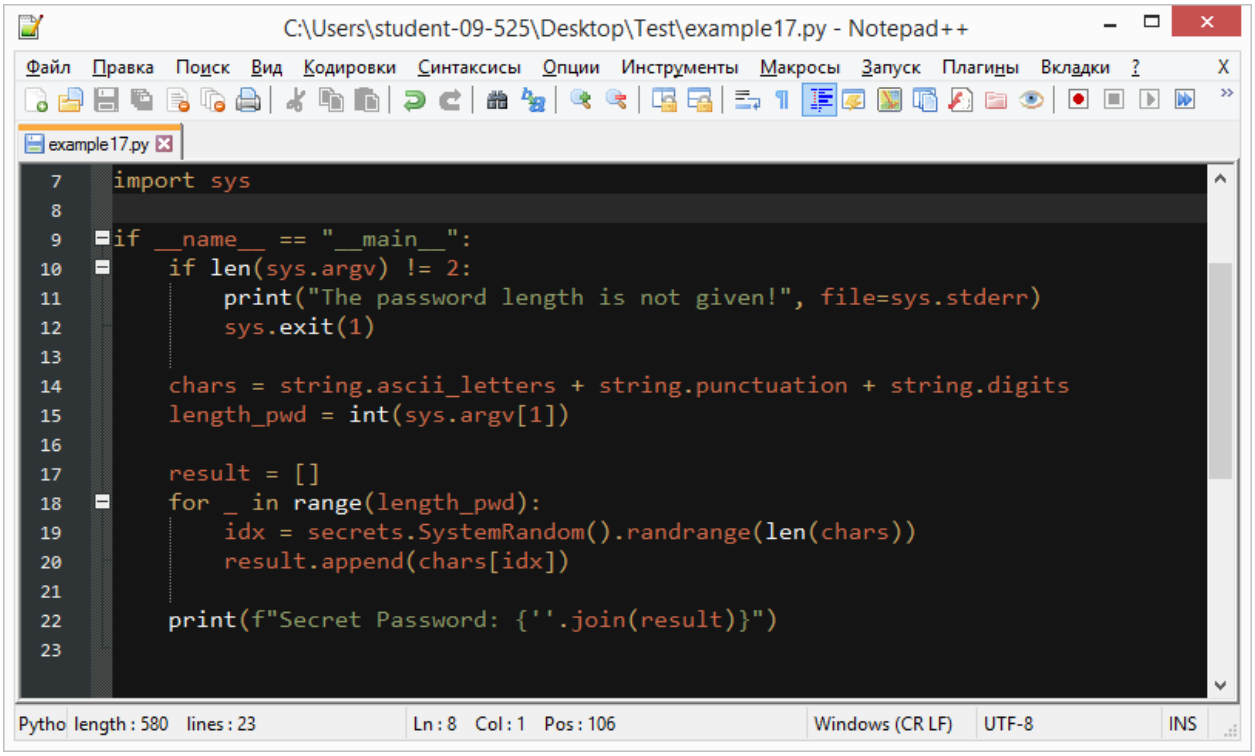


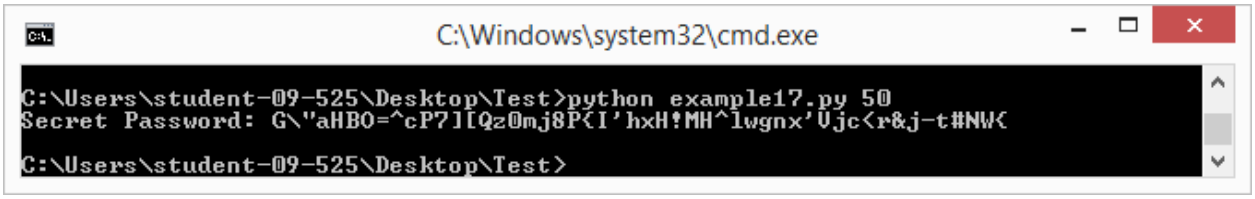
Пример 16




C:\Windows\system32\cmd.exe
C:\Users\student-09-525\Desktop\Test>python example16.py
Argument #0 is example16.py
No. of arguments passed is 1
C:\Users\student-09-525\Desktop\Test>python example16.py 15.doc 1 2 3 4
Argument #0 is example16.py
Argument #1 is 15.doc
Argument #2 is 1
Argument #3 is 2
Argument #4 is 3
Argument #5 is 4
No. of arguments passed is 6
C:\Users\student-09-525\Desktop\Test>

Пример 17

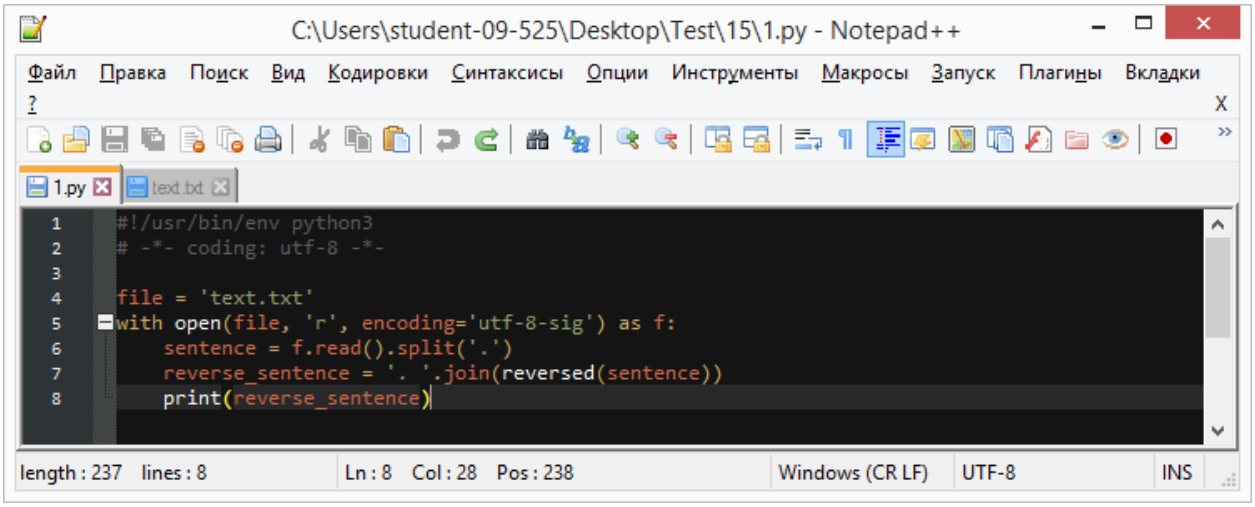

C:\Users\student-09-525\Desktop\Test\example17.py - Notepad++
Файл Правка Поиск Вид Кодировки Синтаксисы Опции Инструменты Макросы Запуск Плагины Вкладки ?
example17.py
import sys
if __name__ == "__main__":
if len(sys.argv) != 2:
print("The password length is not given!", file=sys.stderr)
sys.exit(1)
chars = string.ascii_letters + string.punctuation + string.digits
length_pwd = int(sys.argv[1])
result = []
for _ in range(length_pwd):
idx = secrets.SystemRandom().randrange(len(chars))
result.append(chars[idx])
print(f"Secret Password: {''.join(result)}")
Pytho length : 580 lines : 23
Ln : 8 Col : 1 Pos : 106
Windows (CR LF)
UTF-8
INS

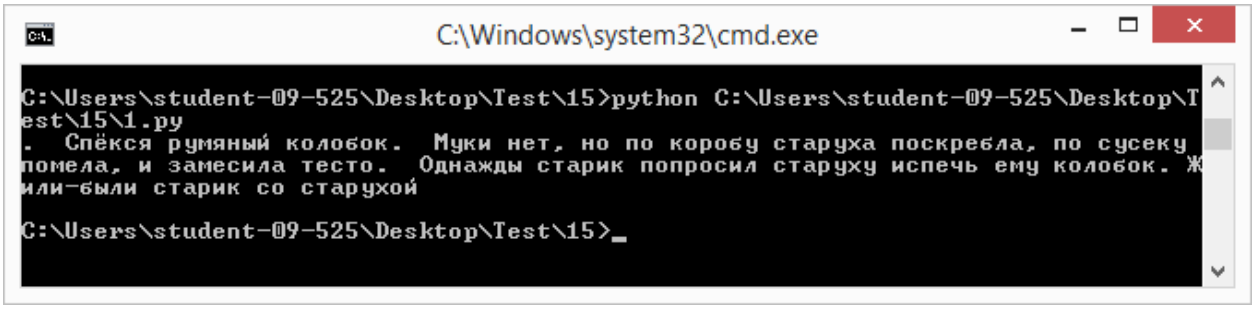

C:\Windows\system32\cmd.exe
C:\Users\student-09-525\Desktop\Test>python example17.py 50
Secret Password: G\"aHBO=^cP7][Qz0mj8P{I'hxH!MH^lwgnx'Vjc<r&j-t#NW{
C:\Users\student-09-525\Desktop\Test>

Индивидуальные задания

Задание 1

1. Написать программу, которая считывает из текстового файла три предложения и выводит их в обратном порядке.





Задание 2

3. Продолжаем тему операционных систем на базе Unix, в которых обычно также есть утилита с названием cat, что является сокращением от concatenate (сцепить). Эта утилита выводит на экран объединенное содержимое нескольких файлов, имена которых передаются ей в качестве аргументов командной строки. При этом файлы сцепляются в том порядке, в котором указаны в аргументах. Напишите программу на Python, имитирующую работу этой утилиты. В процессе работы программа должна выдавать сообщения о том, какие файлы открыть не удается, и переходить к следующим файлам. Если программа была запущена без аргументов командной строки, на экран должно быть выведено соответствующее сообщение об ошибке.

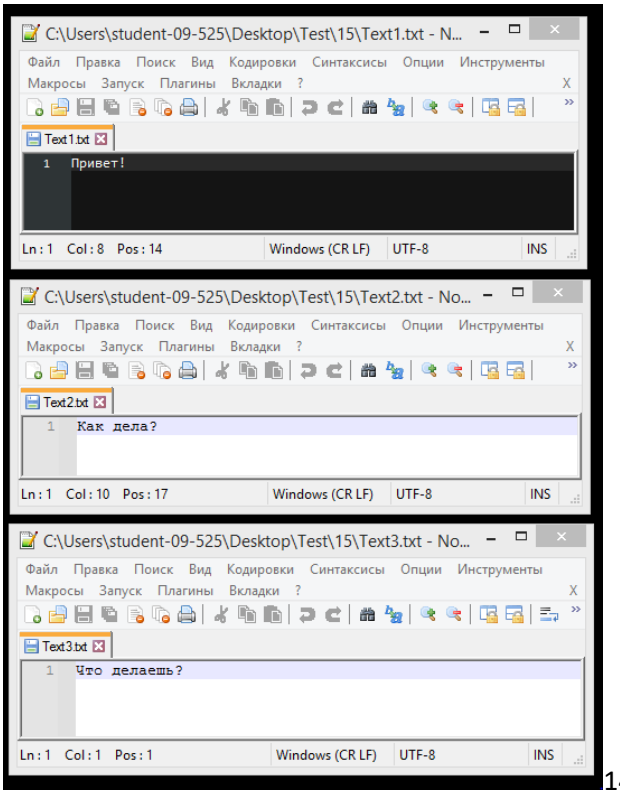
D:\ЯндексДиск\Синхронизация\YandexDisk\ИМИТ СКФУ\Курсы\2\Семетр\4\Основы программной инженерии\Выпол...

Файл Правка Поиск Вид Кодировки Синтаксисы Опции Инструменты Макросы Запуск Плагины Вкладки ?

2.py

```
#!/usr/bin/env python3
# -*- coding: utf-8 -*-

import sys

text = ""

if len(sys.argv) <= 1:
    print("Error: No file arguments found.")
    exit()

for filename in sys.argv:
    if sys.argv[0] == filename:
        continue

    try:
        with open(filename, "r" , encoding="utf-8") as a:
            buf = a.read()
            text = text + buf + " "
    except:
        pass

print(text)
```

Python file | length : 418 | lines : 24 | Ln : 24 | Col : 1 | Pos : 419 | Windows (CR LF) | UTF-8 | INS



14

C:\Windows\system32\cmd.exe

```
python 2.py Text1.txt Text2.txt Text4.txt Text3.txt
Привет! Как дела? Что делаешь?
```

C:\Windows\system32\cmd.exe

```
2.py
Error: No file arguments found.
```

Самостоятельно