

МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ   
РОССИЙСКОЙ ФЕДЕРАЦИИ

**ФЕДЕРАЛЬНОЕ ГОСУДАРСТВЕННОЕ БЮДЖЕТНОЕ**

**ОБРАЗОВАТЕЛЬНОЕ УЧРЕЖДЕНИЕ ВЫСШЕГО ОБРАЗОВАНИЯ  
«ДОНСКОЙ ГОСУДАРСТВЕННЫЙ ТЕХНИЧЕСКИЙ УНИВЕРСИТЕТ»**

**(ДГТУ)**

Факультет Информатика и вычислительная техника

Кафедра Кибербезопасность информационных систем

**Лабораторная работа № 1**

на тему «**Реализация стеганографических методов сокрытия информации в MS Word**»

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**Цель работы:** описать стеганографические методы и выполнить практическую работу.

Github: https://github.com/QQassd/steganography-5th-year/tree/main/lab1

**Ход работы:**

Работа программы:

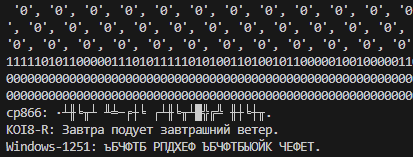


Рисунок 1 – Вывод работы программы

Сокрытие было выполнено с использованием кодировки koi8\_r в цвете шрифта.

Скрытая фраза: Завтра подует завтрашний ветер.

**Вывод:** В данной лабораторной работе были получены навыки обнаружения замаскированных сообщений, были изучены стеганографические методы и выполнена практическая работа.

**Листинг программного кода:**

Sub ReplaceCharactersInWordFile()

Dim wordApp As Object

Dim wordDoc As Object

Dim i As Integer

' Create a new instance of Word application

On Error Resume Next

Set wordApp = GetObject(, "Word.Application")

On Error GoTo 0

If wordApp Is Nothing Then

Set wordApp = CreateObject("Word.Application")

End If

wordApp.Visible = True ' Make Word application visible

' Open the Word document

Dim docPath As String

docPath = "C:\Users\logger\Desktop\variant05.docx" ' Update with your file path

Set wordDoc = wordApp.Documents.Open(docPath)

' Iterate through each character in the document

For i = 1 To wordDoc.Characters.Count

' Check if the character has a scale of 99% or 100%

If wordDoc.Characters(i).Font.Scaling = 99 Then

' Replace character with "1"

wordDoc.Characters(i).text = "1"

ElseIf wordDoc.Characters(i).Font.Scaling = 100 Then

' Replace character with "0"

wordDoc.Characters(i).text = "0"

End If

Next i

' Save the modified document

wordDoc.Save

' Close the document

wordDoc.Close

' Quit Word application

wordApp.Quit

' Release objects

Set wordDoc = Nothing

Set wordApp = Nothing

End Sub

Sub ReplaceCharactersBasedOnLetterSpacing()

Dim wordApp As Object

Dim wordDoc As Object

Dim i As Integer

' Create a new instance of Word application

On Error Resume Next

Set wordApp = GetObject(, "Word.Application")

On Error GoTo 0

If wordApp Is Nothing Then

Set wordApp = CreateObject("Word.Application")

End If

wordApp.Visible = True ' Make Word application visible

' Open the Word document

Dim docPath As String

docPath = "C:\Users\logger\Desktop\5.docx" ' Update with your file path

Set wordDoc = wordApp.Documents.Open(docPath)

' Iterate through each character in the document

For i = 1 To wordDoc.Characters.Count

' Check if the character has letter spacing of 1 or no letter spacing

If wordDoc.Characters(i).Font.Spacing = 1 Then

' Replace character with "1"

wordDoc.Characters(i).text = "1"

Else

' Replace character with "0"

wordDoc.Characters(i).text = "0"

End If

Next i

' Close the document

wordDoc.Close

' Quit Word application

wordApp.Quit

' Release objects

Set wordDoc = Nothing

Set wordApp = Nothing

End Sub

Sub ReplaceCharactersBasedOnFontSize()

Dim wordApp As Object

Dim wordDoc As Object

Dim i As Integer

' Create a new instance of Word application

On Error Resume Next

Set wordApp = GetObject(, "Word.Application")

On Error GoTo 0

If wordApp Is Nothing Then

Set wordApp = CreateObject("Word.Application")

End If

wordApp.Visible = True ' Make Word application visible

' Open the Word document

Dim docPath As String

docPath = "C:\Users\logger\Desktop\555.docx" ' Update with your file path

Set wordDoc = wordApp.Documents.Open(docPath)

' Iterate through each character in the document

For i = 1 To wordDoc.Characters.Count

' Check if the character has a font size of 11.5 or 12

If wordDoc.Characters(i).Font.Size = 11.5 Then

' Replace character with "1"

wordDoc.Characters(i).text = "1"

ElseIf wordDoc.Characters(i).Font.Size = 12 Then

' Replace character with "0"

wordDoc.Characters(i).text = "0"

End If

Next i

' Close the document

wordDoc.Close

' Quit Word application

wordApp.Quit

' Release objects

Set wordDoc = Nothing

Set wordApp = Nothing

End Sub

Sub ReplaceCharactersBasedOnFontColor()

Dim wordApp As Object

Dim wordDoc As Object

Dim i As Integer

Dim color As Long

' Define the RGB value for black

Dim black As Long

black = RGB(0, 0, 0)

' Define the RGB value for (1, 1, 1)

Dim rgb111 As Long

rgb111 = RGB(1, 1, 1)

' Create a new instance of Word application

On Error Resume Next

Set wordApp = GetObject(, "Word.Application")

On Error GoTo 0

If wordApp Is Nothing Then

Set wordApp = CreateObject("Word.Application")

End If

wordApp.Visible = True ' Make Word application visible

' Open the Word document

Dim docPath As String

docPath = "C:\Users\logger\Desktop\variant01.docx" ' Update with your file path

Set wordDoc = wordApp.Documents.Open(docPath)

' Iterate through each character in the document

For i = 1 To wordDoc.Characters.Count

' Get the font color of the character

color = wordDoc.Characters(i).Font.color

' Check if the font color is black or (1, 1, 1)

If color = black Then

' Replace character with "0"

wordDoc.Characters(i).text = "0"

ElseIf color = rgb111 Then

' Replace character with "1"

wordDoc.Characters(i).text = "1"

End If

Next i

' Close the document

wordDoc.Close

' Quit Word application

wordApp.Quit

' Release objects

Set wordDoc = Nothing

Set wordApp = Nothing

End Sub