
1- Write a program that reads a text file named "gammal.txt" and finds a specified incorrect word, then replaces it with a correct word. The corrected text should be written to a new file named "gammal2.txt." The user should input the incorrect and correct words.

اكتب برنامج يقرأ ملف نصي اسمه "gammal.txt" ويعثر على كلمة غير صحيحة محددة، ثم يستبدلها بكلمة صحيحة. يجب كتابة النص المصحح إلى ملف جديد يسمى "gammal2.txt". يجب على المستخدم إدخال الكلمات غير الصحيحة والصحيحة.

Input

gammal.txt

```
1   The corrected tixt should be written
    to a new file named "gammal2.txt." The
    user should input the incorrect and
    correct words.
```

```
Enter the wrong word: tixt
Enter the correct word: text
```

Output

gammal.txt

```
1   The corrected text should be written
    to a new file named "gammal2.txt." The
    user should input the incorrect and
    correct words.
```

Solution

```c
// www.gammal.tech

#include<stdio.h>
#include<string.h>

int main() {
    FILE* g = fopen("gammal.txt", "r");
    FILE* g2 = fopen("gammal2.txt", "w");

    char wrong_word[20], correct_word[20], w[20], c;

    printf("Enter the wrong word: ");
    scanf("%s", wrong_word);

    printf("Enter the correct word: ");
    scanf("%s", correct_word);

    while (fscanf(g, "%s", w) != EOF) {
        if (strcmp(w, wrong_word) == 0)
            fprintf(g2, "%s ", correct_word);
        else
            fprintf(g2, "%s ", w);
    }

    fclose(g);
    fclose(g2);

    g = fopen("gammal.txt", "w");
    g2 = fopen("gammal2.txt", "r");

    while (fscanf(g2, "%c", &c) != EOF)
        fprintf(g, "%c", c);

    fclose(g);
    fclose(g2);

    // Deleting the temporary file
    remove("gammal2.txt");

    return 0;
}
```

2- Write a program to open and read the content of a text file named "sample.txt" and print it to the console.

اكتب برنامجًا لفتح وقراءة محتوى ملف نصي يسمى "sample.txt" وطباعته على وحدة التحكم.

Input

sample.txt

```
1  This is a sample text file.
```

Output

```
This is a sample text file.
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    FILE* file = fopen("sample.txt", "r");

    if (file != NULL) {
        char c;
        while ((c = fgetc(file)) != EOF)
            putchar(c);

        fclose(file);
    } else {
        printf("Error opening the file.\n");
    }

    return 0;
}
```

3- Write a program that opens a text file named "characters.txt" and counts the number of characters present in it.

اكتب برنامجًا يفتح ملفًا نصيًا باسم "characters.txt" ويحسب عدد الأحرف الموجودة فيه.

Input

characters.txt

```
1  Write a program that opens a text file
   named "characters.txt" and counts the
   number of characters present in it.
```

Output

```
Number of characters in the file: 114
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    FILE* file = fopen("characters.txt", "r");

    if (file != NULL) {
        int count = 0;
        char c;

        while ((c = fgetc(file)) != EOF)
            count++;

        printf("Number of characters in the file: %d\n", count);

        fclose(file);
    } else {
        printf("Error opening the file.\n");
    }

    return 0;
}
```

4- Trace the following program and predict the output.

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    FILE *file;
    char content[100];

    printf("Opening file...\n");

    file = fopen("trace_append.txt", "a");

    if (file != NULL) {
        printf("File opened successfully.\n");

        fprintf(file, "This is line 1.\n");
        fprintf(file, "This is line 2.\n");

        fclose(file);
        printf("File closed.\n");
    } else {
        printf("Error opening the file.\n");
    }

    return 0;
}
```

Solution

trace_append.txt

```
1  This is line 1.
2  This is line 2.
```

```
Opening file...
File opened successfully.
File closed.
```

5- Trace the following program and predict the output.

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    FILE *file;
    char content[100];

    printf("Opening file...\n");

    file = fopen("trace_prediction.txt", "w");

    if (file != NULL) {
        printf("File opened successfully.\n");

        fprintf(file, "This is line 1.\n");
        fprintf(file, "This is line 2.\n");
        fprintf(file, "This is line 3.\n");

        fclose(file);
        printf("File closed.\n");
    } else {
        printf("Error opening the file.\n");
    }

    return 0;
}
```

Solution

```
Opening file...
File opened successfully.
File closed.
```

trace_prediction.txt

```
1  This is line 1.
2  This is line 2.
3  This is line 3.
```

6- Create a program that creates a file named "example.txt" and writes the text "Hello, this is a sample text!" into it.

قم بإنشاء برنامج يقوم بإنشاء ملف باسم "example.txt" ويكتب النص "مرحبًا، هذا نص نموذجي!" بداخله.

Output

example.txt

```
1  Hello, this is a sample text!
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    FILE *file;
    file = fopen("example.txt", "w");

    if (file == NULL) {
        printf("Error creating file!");
        return 1;
    }

    fprintf(file, "Hello, this is a sample text!");

    fclose(file);

    return 0;
}
```

7- Write a program that reads the content of the "example.txt" file and prints it to the console.

اكتب برنامجًا يقرأ محتوى ملف "example.txt" ويطبعه على وحدة التحكم.

Input

example.txt

```
1   Write a program that reads the content
```

Output

```
File content:  Write a program that reads the content
```

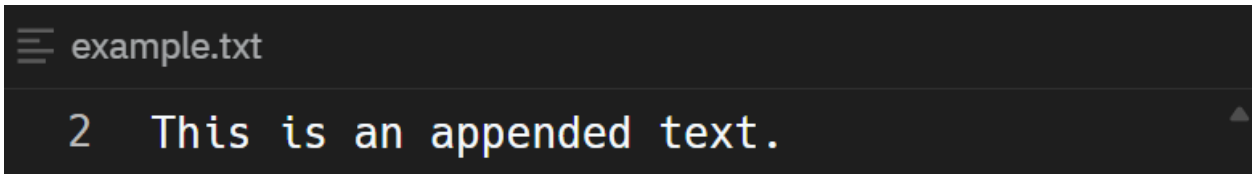
Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    FILE *file;
    char buffer[100];

    file = fopen("example.txt", "r");

    if (file == NULL) {
        printf("Error opening file!");
        return 1;
    }

    fscanf(file, "%[^\n]", buffer);

    printf("File content: %s\n", buffer);

    fclose(file);

    return 0;
}
```

8- Develop a program that appends the text "This is an appended text." to the end of the "example.txt" file.

تطوير برنامج يقوم بإلحاق النص "This is an appended text." إلى نهاية الملف "example.txt".

Output



Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    FILE *file;

    file = fopen("example.txt", "a");

    if (file == NULL) {
        printf("Error opening file!");
        return 1;
    }

    fprintf(file, "\nThis is an appended text.");

    fclose(file);

    return 0;
}
```

9- Create a program that writes an integer (e.g., 42) to a text file named "integer_data.txt".

قم بإنشاء برنامج يكتب عددًا صحيحًا (على سبيل المثال، 42) إلى ملف نصي يسمى "integer_data.txt".

Output

integer_data.txt

```
1  42
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    FILE *file;
    int number = 42;

    file = fopen("integer_data.txt", "w");

    if (file == NULL) {
        printf("Error creating file!");
        return 1;
    }

    fprintf(file, "%d", number);

    fclose(file);

    return 0;
}
```

10- Write a program that copies the content of the text file "source_lines.txt" to a new file named "destination_lines.txt" line by line.

اكتب برنامجًا يقوم بنسخ محتوى الملف النصي "source_lines.txt" إلى ملف جديد يسمى "destination_lines.txt" سطرًا تلو الآخر.

Input

source_lines.txt

```
1  program that copies the content of the text
   file "source_lines.txt"
2  to a new
3  file named "destination_lines.txt" line by
   line.
```

Output

destination_lines.txt

```
1  program that copies the content of the text
   file "source_lines.txt"
2  to a new
3  file named "destination_lines.txt" line by
   line.
```

```
Text file content copied line by line!
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    FILE *source, *destination;
    char line[100];

    source = fopen("source_lines.txt", "r");
    destination = fopen("destination_lines.txt", "w");

    if (source == NULL || destination == NULL) {
        printf("Error opening files!");
        return 1;
    }

    while (fgets(line, sizeof(line), source) != NULL) {
        fprintf(destination, "%s", line);
    }

    printf("Text file content copied line by line!");

    fclose(source);
    fclose(destination);

    return 0;
}
```