
1- Write a program to take user input and store it in "gammal1.txt."

اكتب برنامجًا ليأخذ مدخلات المستخدم ويخزنها في ملف "gammal1.txt".

Input

```
200
```

Output

gammal1.txt

```
1   200
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    FILE *in = fopen("gammal1.txt", "w");
    int x;
    scanf("%d", &x);
    fprintf(in, "%d\n", x);
}
```

2- Modify the program to read the number from "gamma 1.text" and generate a sequence from 1 to that number, then write the sequence to "gamma2.txt."

قم بتعديل البرنامج لقراءة الرقم من "gamma 1.text" وإنشاء تسلسل من 1 إلى ذلك الرقم، ثم كتابة التسلسل إلى "gamma2.txt".

Input

gammal1.txt

```
1   5
```

Output

gammal2.txt

```
1   1
2   2
3   3
4   4
5   5
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    FILE *in = fopen("gammal1.txt", "r");
    FILE *out = fopen("gammal2.txt", "w");

    int i, n;
    fscanf(in, "%d", &n);

    for (i = 1; i <= n; i++)
        fprintf(out, "%d\n", i);

    fclose(in);
    fclose(out);
}
```

3- Create a program that reads a number from a file named "numbers.txt" and prints its square.

قم بإنشاء برنامج يقرأ رقمًا من ملف يسمى "numbers.txt" ويطبع مربعه.

Input

numbers.txt

```
1   9
```

Output

```
Square of the number: 81
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

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

    fscanf(file, "%d", &num);
    fclose(file);

    printf("Square of the number: %d\n", num * num);

    return 0;
}
```

4- Write a program that takes two numbers as input and writes their sum to a file named "sum.txt."

اكتب برنامجًا يأخذ رقمين كمدخلات ويكتب مجموعهما في ملف يسمى "sum.txt".

Input

```
Enter first number: 5
Enter second number: 7
```

Output

sum.txt

```
1  Sum: 12
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    int num1, num2, sum;

    printf("Enter first number: ");
    scanf("%d", &num1);

    printf("Enter second number: ");
    scanf("%d", &num2);

    sum = num1 + num2;

    FILE *file = fopen("sum.txt", "w");
    fprintf(file, "Sum: %d\n", sum);
    fclose(file);

    return 0;
}
```

5- Create a program that takes a character as input and writes its ASCII code to a file named "ascii.txt."

قم بإنشاء برنامج يأخذ حرفًا كمدخل ويكتب رمز ASCII الخاص به إلى ملف يسمى "ascii.txt".

Input

```
Enter a character: C
```

Output

ascii.txt

```
1  ASCII code of C: 67
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    char ch;

    printf("Enter a character: ");
    scanf(" %c", &ch);

    FILE *file = fopen("ascii.txt", "w");
    fprintf(file, "ASCII code of %c: %d\n", ch, ch);
    fclose(file);

    return 0;
}
```

6- Create a program that reads a series of integers from "data.txt" and finds the maximum value among them.

قم بإنشاء برنامج يقرأ سلسلة من الأعداد الصحيحة من "data.txt" ويبحث عن القيمة القصوى بينها.

Input

data.txt

```
1  -9 1
```

Output

```
Maximum value: 1
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    FILE *file = fopen("data.txt", "r");
    int num, max = -2147483647;  // Initializing with the minimum possible integer value

    while (fscanf(file, "%d", &num) != EOF) {
        if (num > max) {
            max = num;
        }
    }

    fclose(file);
    printf("Maximum value: %d\n", max);

    return 0;
}
```

7- Create a program that reads a series of integers from "input.txt" and writes the sum of positive integers and the sum of negative integers to separate files, "positive_sum.txt" and "negative_sum.txt."

أنشئ برنامجًا يقرأ سلسلة من الأعداد الصحيحة من "input.txt" ويكتب مجموع الأعداد الصحيحة الموجبة ومجموع الأعداد الصحيحة السالبة لفصل الملفات "positive_sum.txt" و"negative_sum.txt".

Input

input.txt

```
1
2
3
-5
-1
```

Output

negative_sum.txt

```
1  Sum of negative integers: -6
```

positive_sum.txt

```
1  Sum of positive integers: 6
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    FILE *inputFile = fopen("input.txt", "r");
    FILE *positiveFile = fopen("positive_sum.txt", "w");
    FILE *negativeFile = fopen("negative_sum.txt", "w");

    int num, positiveSum = 0, negativeSum = 0;

    while (fscanf(inputFile, "%d", &num) != EOF) {
        if (num > 0) {
            positiveSum += num;
        } else {
            negativeSum += num;
        }
    }

    fprintf(positiveFile, "Sum of positive integers: %d\n", positiveSum);
    fprintf(negativeFile, "Sum of negative integers: %d\n", negativeSum);

    fclose(inputFile);
    fclose(positiveFile);
    fclose(negativeFile);

    return 0;
}
```

8- Create a program that reads a series of names from "names.txt" and writes each name along with its length to "name_lengths.txt."

قم بإنشاء برنامج يقرأ سلسلة من الأسماء من "names.txt" ويكتب كل اسم مع طوله إلى "name_lengths.txt".

Input

names.txt

```
Ahmed
Amr
Aly
```

Output

name_lengths.txt

```
Ahmed: 5
Amr: 3
Aly: 3
```

Solution

```c
// www.gammal.tech

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

int main() {
    FILE *namesFile = fopen("names.txt", "r");
    FILE *lengthsFile = fopen("name_lengths.txt", "w");

    char name[50];

    while (fscanf(namesFile, "%s", name) != EOF) {
        fprintf(lengthsFile, "%s: %d\n", name, (int)strlen(name));
    }

    fclose(namesFile);
    fclose(lengthsFile);

    return 0;
}
```

9- Create a program that reads a sentence from "sentence.txt" and replaces all spaces with underscores. Write the modified sentence to "modified_sentence.txt."

قم بإنشاء برنامج يقرأ الجملة من "sentence.txt" ويستبدل كافة المسافات بشرطات سفلية. اكتب الجملة المعدلة إلى "modified_sentence.txt".

Input

sentence.txt

```
1  replaces all spaces with underscores.
```

Output

modified_sentence.txt

```
1  replaces_all_spaces_with_underscores.
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    FILE *inputFile = fopen("sentence.txt", "r");
    FILE *outputFile = fopen("modified_sentence.txt", "w");

    char ch;

    while ((ch = fgetc(inputFile)) != EOF) {
        if (ch == ' ') {
            fputc('_', outputFile);
        } else {
            fputc(ch, outputFile);
        }
    }

    fclose(inputFile);
    fclose(outputFile);

    return 0;
}
```

10- Write a program that takes a string as input and writes it backward to a file named "reversed_string.txt."

اكتب برنامجًا يأخذ سلسلة كمدخلات ويكتبها بشكل عكسي في ملف يسمى "reversed_string.txt".

Input

```
Enter a string: Gammal Tech
```

Output

reversed_string.txt

```
1  hceT lammaG
```

Solution

```c
// www.gammal.tech

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

int main() {
    FILE *outputFile = fopen("reversed_string.txt", "w");
    char input[100];

    printf("Enter a string: ");
    scanf(" %[^\n]", input);

    for (int i = strlen(input) - 1; i >= 0; i--) {
        fputc(input[i], outputFile);
    }

    fclose(outputFile);

    return 0;
}
```
