
1- Write a program to reverse the digits of a given number.

اكتب برنامجًا لعكس أرقام رقم معين.

Input

```
Enter a number: 123456
```

Output

```
Reversed number: 654321
```

Solution

```c
// www.gammal.tech

#include<stdio.h>

int main() {
    int num, reversed = 0;
    printf("Enter a number: ");
    scanf("%d", &num);

    while (num != 0) {
        reversed = reversed * 10 + num % 10;
        num /= 10;
    }

    printf("Reversed number: %d\n", reversed);

    return 0;
}
```

2- Write a program to find the sum of digits after reversing a given number.

اكتب برنامجًا لإيجاد مجموع الأرقام بعد عكس رقم معين.

Input

```
Enter a number: 9874
```

Output

```
Reversed number: 4789
Sum of reversed digits: 28
```

Solution

```c
// www.gammal.tech

#include<stdio.h>

int main() {
    int num, reversed = 0, sum = 0;
    printf("Enter a number: ");
    scanf("%d", &num);

    while (num != 0) {
        reversed = reversed * 10 + num % 10;
        sum += num % 10;
        num /= 10;
    }

    printf("Reversed number: %d\n", reversed);
    printf("Sum of reversed digits: %d\n", sum);

    return 0;
}
```

3- Create a program to count the number of even digits in a reversed number.

إنشاء برنامج لحساب عدد الأرقام الزوجية في رقم معكوس.

Input

```
Enter a number: 3578
```

Output

```
Reversed number: 8753
Number of even digits in reversed number: 1
```

Solution

```c
// www.gammal.tech

#include<stdio.h>

int main() {
    int num, reversed = 0, evenCount = 0;
    printf("Enter a number: ");
    scanf("%d", &num);

    while (num != 0) {
        reversed = reversed * 10 + num % 10;
        if ((num % 10) % 2 == 0) {
            evenCount++;
        }
        num /= 10;
    }

    printf("Reversed number: %d\n", reversed);
    printf("Number of even digits in reversed number: %d\n", evenCount);

    return 0;
}
```

4- Write a program to reverse and concatenate two numbers.

اكتب برنامجًا لعكس وربط رقمين.

Input

```
Enter the first number: 597
Enter the second number: 126
```

Output

```
Reversed and concatenated number: 795621
```

Solution

```c
// www.gammal.tech

#include<stdio.h>

int main() {
    int num1, num2, reversed1 = 0, reversed2 = 0;
    printf("Enter the first number: ");
    scanf("%d", &num1);
    printf("Enter the second number: ");
    scanf("%d", &num2);

    while (num1 != 0) {
        reversed1 = reversed1 * 10 + num1 % 10;
        num1 /= 10;
    }

    while (num2 != 0) {
        reversed2 = reversed2 * 10 + num2 % 10;
        num2 /= 10;
    }

    printf("Reversed and concatenated number: %d%d\n", reversed1, reversed2);

    return 0;
}
```

5- Create a program to find the product of digits in a reversed number.

إنشاء برنامج لإيجاد منتج الأرقام في عدد معكوس.

Input

```
Enter a number: 6584
```

Output

```
Reversed number: 4856
Product of digits in reversed number: 960
```

Solution

```c
// www.gammal.tech

#include<stdio.h>

int main() {
    int num, reversed = 0, product = 1;
    printf("Enter a number: ");
    scanf("%d", &num);

    while (num != 0) {
        reversed = reversed * 10 + num % 10;
        product *= num % 10;
        num /= 10;
    }

    printf("Reversed number: %d\n", reversed);
    printf("Product of digits in reversed number: %d\n", product);

    return 0;
}
```

6- Write a program to reverse a given string.

اكتب برنامجًا لعكس سلسلة معينة.

Input

```
Enter a string: Hello world
```

Output

```
dlrow olleH
```

Solution

```c
// www.gammal.tech

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

int main() {
    char str[100];
    printf("Enter a string: ");
    scanf("%[^\n]", str);

    int length = strlen(str);

    printf("\n");
    for (int i = length - 1; i >= 0; i--) {
        printf("%c", str[i]);
    }

    return 0;
}
```

7- Write a program to reverse and concatenate two strings.

اكتب برنامجًا لعكس سلسلتين وربطهما.

Input

```
Enter the first string: Welcome to you
Enter the second string: in gammal tech
```

Output

```
hcet lammag niuoy ot emocleW
```

Solution

```c
// www.gammal.tech

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

int main() {
    char str1[100], str2[100];
    printf("Enter the first string: ");
    scanf("%[^\n]", str1);
    getchar();
    printf("Enter the second string: ");
    scanf("%[^\n]", str2);

    int length1 = strlen(str1);
    int length2 = strlen(str2);

    printf("\n");
    for (int i = length2 - 1; i >= 0; i--) {
        printf("%c", str2[i]);
    }

    for (int i = length1 - 1; i >= 0; i--) {
        printf("%c", str1[i]);
    }

    return 0;
}
```

8- Create a program to reverse and count the number of vowels in a given string.

إنشاء برنامج لعكس وحساب عدد حروف vowels في سلسلة معينة.

Input

```
Enter a string: Hello world!
```

Output

```
!dlrow olleH
Number of vowels: 3
```

Solution

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

int main() {
    char str[100];
    printf("Enter a string: ");
    scanf("%[^\n]", str);

    int length = strlen(str);
    int vowelCount = 0;

    for (int i = length - 1; i >= 0; i--) {
        printf("%c", str[i]);
        if (str[i] == 'a' || str[i] == 'e' || str[i] == 'i' || str[i] == 'o' || str[i] == 'u' ||
            str[i] == 'A' || str[i] == 'E' || str[i] == 'I' || str[i] == 'O' || str[i] == 'U') {
            vowelCount++;
        }
    }

    printf("\nNumber of vowels: %d\n", vowelCount);

    return 0;
}
```

9- Create a program to reverse and extract the vowels from a given string.

إنشاء برنامج لعكس واستخراج حروف vowels من سلسلة معينة.

Input

```
Enter a string: Hello World
```

Output

```
Reversed string: dlroW olleH
Vowels in the reversed string: ooe
```

Solution

```c
// www.gammal.tech

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

int main() {
    char str[100];
    printf("Enter a string: ");

    scanf("%[^\n]", str);

    int length = strlen(str);

    printf("\nReversed string: ");
    for (int i = length - 1; i >= 0; i--) {
        printf("%c", str[i]);
    }

    printf("\nVowels in the reversed string: ");
    for (int i = length - 1; i >= 0; i--) {
        if (str[i] == 'a' || str[i] == 'e' || str[i] == 'i' || str[i] == 'o' || str[i] == 'u' ||
            str[i] == 'A' || str[i] == 'E' || str[i] == 'I' || str[i] == 'O' || str[i] == 'U') {
            printf("%c", str[i]);
        }
    }

    return 0;
}
```

10- Write a program to reverse and remove the vowels from a given string.

اكتب برنامجًا لعكس وإزالة حروف vowels من سلسلة معينة.

Input

```
Enter a string: Hello world
```

Output

```
Reversed string: dlrow olleH
String without vowels: dlrw llH
```

Solution

```c
// www.gammal.tech

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

int main() {
    char str[100];
    printf("Enter a string: ");
    scanf("%[^\n]", str);

    int length = strlen(str);

    printf("Reversed string: ");
    for (int i = length - 1; i >= 0; i--) {
        printf("%c", str[i]);
    }

    printf("\nString without vowels: ");
    for (int i = length - 1; i >= 0; i--) {
        if (str[i] != 'a' && str[i] != 'e' && str[i] != 'i' && str[i] != 'o' && str[i] != 'u' &&
            str[i] != 'A' && str[i] != 'E' && str[i] != 'I' && str[i] != 'O' && str[i] != 'U') {
            printf("%c", str[i]);
        }
    }

    return 0;
}
```
