

```
1  #include <stdio.h>
2
3  ✓ int main(void) {
4
5      char first_name[5];
6      char last_name[5];
7
8      printf("Please, enter your first name:\n> ");
9      scanf("%s", first_name);
10
11     printf("Please, enter your last name:\n> ");
12     scanf("%s", last_name);
13
14     printf("Welcome to the program, %s %s\n", first_name, last_name);
15
16     return 0;
17 }
```

Стэк в момент  
начала исполнения  
программы

| Переменные     | Адрес       | Значение | Символ |
|----------------|-------------|----------|--------|
| ..             | 12345677999 | ??       | ??     |
| first_name     | 12345678000 | ??       | ??     |
| first_name + 1 | 12345678001 | ??       | ??     |
| first_name + 2 | 12345678002 | ??       | ??     |
| first_name + 3 | 12345678003 | ??       | ??     |
| first_name + 4 | 12345678004 | ??       | ??     |
| Выравнивание   | 12345678005 | ??       | ??     |
| Выравнивание   | 12345678006 | ??       | ??     |
| Выравнивание   | 12345678007 | ??       | ??     |
| last_name      | 12345678008 | ??       | ??     |
| last_name + 1  | 12345678009 | ??       | ??     |
| last_name + 2  | 12345678010 | ??       | ??     |
| last_name + 3  | 12345678011 | ??       | ??     |
| last_name + 4  | 12345678012 | ??       | ??     |
| ..             | 12345678013 | ??       | ??     |

| 8B | 5B | Переменные     | Адрес       | Значение | Символ |
|----|----|----------------|-------------|----------|--------|
|    |    | ..             | 12345677999 | ??       | ??     |
|    |    | first_name     | 12345678000 | ??       | ??     |
|    |    | first_name + 1 | 12345678001 | ??       | ??     |
|    |    | first_name + 2 | 12345678002 | ??       | ??     |
|    |    | first_name + 3 | 12345678003 | ??       | ??     |
|    |    | first_name + 4 | 12345678004 | ??       | ??     |
|    |    | Выравнивание   | 12345678005 | ??       | ??     |
|    |    | Выравнивание   | 12345678006 | ??       | ??     |
|    |    | Выравнивание   | 12345678007 | ??       | ??     |
|    |    | last_name      | 12345678008 | ??       | ??     |
|    |    | last_name + 1  | 12345678009 | ??       | ??     |
|    |    | last_name + 2  | 12345678010 | ??       | ??     |
|    |    | last_name + 3  | 12345678011 | ??       | ??     |
|    |    | last_name + 4  | 12345678012 | ??       | ??     |
|    |    | ..             | 12345678013 | ??       | ??     |

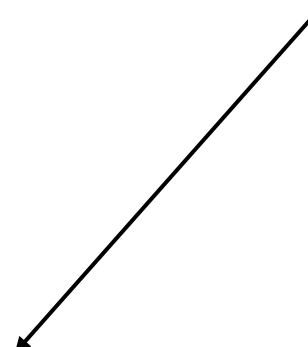
Пользователем  
введен **first\_name**

| Переменные     | Адрес       | Значение | Символ      |
|----------------|-------------|----------|-------------|
| ..             | 12345677999 | ??       | ??          |
| first_name     | 12345678000 | 65       | <b>A</b>    |
| first_name + 1 | 12345678001 | 66       | <b>B</b>    |
| first_name + 2 | 12345678002 | 67       | <b>C</b>    |
| first_name + 3 | 12345678003 | 68       | <b>D</b>    |
| first_name + 4 | 12345678004 | 69       | <b>E</b>    |
| Выравнивание   | 12345678005 | 70       | <b>F</b>    |
| Выравнивание   | 12345678006 | 71       | <b>G</b>    |
| Выравнивание   | 12345678007 | 72       | <b>I</b>    |
| last_name      | 12345678008 | 00       | <b>'\0'</b> |
| last_name + 1  | 12345678009 | ??       | ??          |
| last_name + 2  | 12345678010 | ??       | ??          |
| last_name + 3  | 12345678011 | ??       | ??          |
| last_name + 4  | 12345678012 | ??       | ??          |
| ..             | 12345678013 | ??       | ??          |

Пользователем  
введен **first\_name**

| Переменные     | Адрес       | Значение | Символ      |
|----------------|-------------|----------|-------------|
| ..             | 12345677999 | ??       | ??          |
| first_name     | 12345678000 | 65       | <b>A</b>    |
| first_name + 1 | 12345678001 | 66       | <b>B</b>    |
| first_name + 2 | 12345678002 | 67       | <b>C</b>    |
| first_name + 3 | 12345678003 | 68       | <b>D</b>    |
| first_name + 4 | 12345678004 | 69       | <b>E</b>    |
| Выравнивание   | 12345678005 | 70       | <b>F</b>    |
| Выравнивание   | 12345678006 | 71       | <b>G</b>    |
| Выравнивание   | 12345678007 | 72       | <b>I</b>    |
| last_name      | 12345678008 | 00       | <b>'\0'</b> |
| last_name + 1  | 12345678009 | ??       | ??          |
| last_name + 2  | 12345678010 | ??       | ??          |
| last_name + 3  | 12345678011 | ??       | ??          |
| last_name + 4  | 12345678012 | ??       | ??          |
| ..             | 12345678013 | ??       | ??          |

Нулевой байт  
завершения  
строки



Пользователем  
введен **last\_name**

| Переменные     | Адрес       | Значение         | Символ                   |
|----------------|-------------|------------------|--------------------------|
| ..             | 12345677999 | ??               | ??                       |
| first_name     | 12345678000 | 65               | <b>A</b>                 |
| first_name + 1 | 12345678001 | 66               | <b>B</b>                 |
| first_name + 2 | 12345678002 | 67               | <b>C</b>                 |
| first_name + 3 | 12345678003 | 68               | <b>D</b>                 |
| first_name + 4 | 12345678004 | 69               | <b>E</b>                 |
| Выравнивание   | 12345678005 | 70               | <b>F</b>                 |
| Выравнивание   | 12345678006 | 71               | <b>G</b>                 |
| Выравнивание   | 12345678007 | 72               | <b>I</b>                 |
| last_name      | 12345678008 | <del>00</del> 73 | <del>'\0'</del> <b>J</b> |
| last_name + 1  | 12345678009 | 74               | <b>K</b>                 |
| last_name + 2  | 12345678010 | 75               | <b>L</b>                 |
| last_name + 3  | 12345678011 | 76               | <b>M</b>                 |
| last_name + 4  | 12345678012 | 00               | <b>'\0'</b>              |
| ..             | 12345678013 | ??               | ??                       |

Пользователем  
введен **last\_name**

| Переменные     | Адрес       | Значение | Символ    |
|----------------|-------------|----------|-----------|
| ..             | 12345677999 | ??       | ??        |
| first_name     | 12345678000 | 65       | <b>A</b>  |
| first_name + 1 | 12345678001 | 66       | <b>B</b>  |
| first_name + 2 | 12345678002 | 67       | <b>C</b>  |
| first_name + 3 | 12345678003 | 68       | <b>D</b>  |
| first_name + 4 | 12345678004 | 69       | <b>E</b>  |
| Выравнивание   | 12345678005 | 70       | <b>F</b>  |
| Выравнивание   | 12345678006 | 71       | <b>G</b>  |
| Выравнивание   | 12345678007 | 72       | <b>I</b>  |
| last_name      | 12345678008 | 73       | <b>J</b>  |
| last_name + 1  | 12345678009 | 74       | <b>K</b>  |
| last_name + 2  | 12345678010 | 75       | <b>L</b>  |
| last_name + 3  | 12345678011 | 76       | <b>M</b>  |
| last_name + 4  | 12345678012 | 00       | <b>\0</b> |
| ..             | 12345678013 | ??       | ??        |

Строка  
**first\_name**  
теперь продлена  
до конца ввода  
**second\_name**

C devs be like

```
char buffer[999999999];  
scanf("%s", buffer);
```

“Just in case”