

C LIBRARY MACRO - VA_END

http://www.tutorialspoint.com/c_standard_library/c_macro_va_end.htm

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Description

The C library macro **void va_end** allows a function with variable arguments which used the **va_start** macro to return. If **va_end** is not called before returning from the function, the result is undefined.

Declaration

Following is the declaration for va_end macro.

```
void va_end(va_list ap)
```

Parameters

- **ap** – This is the va_list object previously initialized by va_start in the same function.

Return Value

This macro does not return any value.

Example

The following example shows the usage of va_end macro.

```
#include <stdarg.h>
#include <stdio.h>

int mul(int, ...);

int main()
{
    printf("15 * 12 = %d\n", mul(2, 15, 12) );

    return 0;
}

int mul(int num_args, ...)
{
    int val = 1;
    va_list ap;
    int i;

    va_start(ap, num_args);
    for(i = 0; i < num_args; i++)
    {
        val *= va_arg(ap, int);
    }
    va_end(ap);

    return val;
}
```

Let us compile and run the above program to produce the following result –

```
15 * 12 = 180
```

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