

```
int vfwprintf(FILE * restrict stream,
              const wchar_t * restrict format,
              va_list arg);
```

Wide-character version of `vfprintf`. 25.5

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**`vfwscanf`** *Wide-Character Formatted File Read Using Variable Argument List (C99)* <wchar.h>

```
int vfwscanf(FILE * restrict stream,
             const wchar_t * restrict format,
             va_list arg);
```

Wide-character version of `vfscanf`. 25.5

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**`vprintf`** *Formatted Write Using Variable Argument List* <stdio.h>

```
int vprintf(const char * restrict format, va_list arg);
```

Equivalent to `printf` with the variable argument list replaced by `arg`.

*Returns* Number of characters written. Returns a negative value if an error occurs. 26.1

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**`vscanf`** *Formatted Read Using Variable Argument List (C99)* <stdio.h>

```
int vscanf(const char * restrict format, va_list arg);
```

Equivalent to `scanf` with the variable argument list replaced by `arg`.

*Returns* Number of input items successfully read and stored. Returns EOF if an input failure occurs before any items can be read. 26.1

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**`vsnprintf`** *Bounded Formatted String Write Using Variable Argument List (C99)* <stdio.h>

```
int vsnprintf(char * restrict s, size_t n,
              const char * restrict format,
              va_list arg);
```

Equivalent to `snprintf` with the variable argument list replaced by `arg`.

*Returns* Number of characters that would have been stored in the array pointed to by `s` (not including the null character) had there been no length restriction. Returns a negative value if an encoding error occurs. 26.1

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**`vsprintf`** *Formatted String Write Using Variable Argument List* <stdio.h>

```
int vsprintf(char * restrict s,
             const char * restrict format,
             va_list arg);
```

Equivalent to `sprintf` with the variable argument list replaced by `arg`.

*Returns* Number of characters stored in the array pointed to by `s`, not including the null character. In C99, returns a negative value if an encoding error occurs. 26.1