

### 74.2.5 Functions and Attributes

The functions and attributes are accessed via the "tab" (for table) member of `PerlIOL`. The functions (methods of the layer "class") are fixed, and are defined by the `PerlIO_funcs` type. They are broadly the same as the public `PerlIO_XXXXX` functions:

```
struct _PerlIO_funcs
{
    Size_t      fsize;
    char *      name;
    Size_t      size;
    IV          kind;
    IV          (*Pushed)(pTHX_ PerlIO *f, const char *mode, SV *arg, PerlIO_funcs *tab);
    IV          (*Popped)(pTHX_ PerlIO *f);
    PerlIO *    (*Open)(pTHX_ PerlIO_funcs *tab,
                        AV *layers, IV n,
                        const char *mode,
                        int fd, int imode, int perm,
                        PerlIO *old,
                        int narg, SV **args);
    IV          (*Binmode)(pTHX_ PerlIO *f);
    SV *        (*Getarg)(pTHX_ PerlIO *f, CLONE_PARAMS *param, int flags)
    IV          (*Fileno)(pTHX_ PerlIO *f);
    PerlIO *    (*Dup)(pTHX_ PerlIO *f, PerlIO *o, CLONE_PARAMS *param, int flags)
    /* Unix-like functions - cf sfio line disciplines */
    SSize_t     (*Read)(pTHX_ PerlIO *f, void *vbuf, Size_t count);
    SSize_t     (*Unread)(pTHX_ PerlIO *f, const void *vbuf, Size_t count);
    SSize_t     (*Write)(pTHX_ PerlIO *f, const void *vbuf, Size_t count);
    IV          (*Seek)(pTHX_ PerlIO *f, Off_t offset, int whence);
    Off_t       (*Tell)(pTHX_ PerlIO *f);
    IV          (*Close)(pTHX_ PerlIO *f);
    /* Stdio-like buffered IO functions */
    IV          (*Flush)(pTHX_ PerlIO *f);
    IV          (*Fill)(pTHX_ PerlIO *f);
    IV          (*Eof)(pTHX_ PerlIO *f);
    IV          (*Error)(pTHX_ PerlIO *f);
    void        (*Clearerr)(pTHX_ PerlIO *f);
    void        (*Setlinebuf)(pTHX_ PerlIO *f);
    /* Perl's snooping functions */
    STDCHAR *   (*Get_base)(pTHX_ PerlIO *f);
    Size_t      (*Get_bufsiz)(pTHX_ PerlIO *f);
    STDCHAR *   (*Get_ptr)(pTHX_ PerlIO *f);
    SSize_t     (*Get_cnt)(pTHX_ PerlIO *f);
    void        (*Set_ptrcnt)(pTHX_ PerlIO *f, STDCHAR *ptr, SSize_t cnt);
};
```

The first few members of the struct give a function table size for compatibility check "name" for the layer, the size to malloc for the per-instance data, and some flags which are attributes of the class as whole (such as whether it is a buffering layer), then follow the functions which fall into four basic groups:

1. Opening and setup functions
2. Basic IO operations
3. Stdio class buffering options.
4. Functions to support Perl's traditional "fast" access to the buffer.