int stat (const char *, struct stat * sb)

int fstat (int fd, struct stat * sb)

int lstat (const char * path, struct stat * sb)

    struct stat sb: ==-1
                                        ↓
    ... stat ("file", & sb);

struct stat {
    dev_t   st_dev;
    ino_t   st_ino;
    mode_t   st_mode;
    nlink_t   st_nlink;
    uid_t   st_uid;
    gid_t   st_gid;
    dev_t   st_rdev;

Major Number -> Which device
Minor Number -> number of...

```
off_t      st_size;
blocksize_t  st_blksize;  ∈ natural blocksize
blkcnt_t  st_blkcnt;
time_t      st_atime;            Anthony & Tommy
time_t      st_mtime;           wife is adopted
time_t      st_ctime;           Peter is his brother
}
```

Three more bits: S_ISUID
                     S_ISGID
                     S_ISVTX

where values come from:

    owner → effective uid of creator
    gid   → it depends
                    SYS V → egid of creator
                    BSD → gid of directory
                    choose → (e.g. linux)

    perms → given & ~umask

umask
  ↳ a property of the process
  ↳ permissions to not give
  ↳ syscall:

         mode_t umask(mode_t mask)

int chmod (const char *path, mode_t mode)
int fchmod (int fd, mode_t mode)

int chown (const char *path, uid_t uid, gid_t gid)
int fchown (int fd, ...)
int lchown (const char *path ...)

struct passwd *getpwname(const char *name)
struct passwd *getpwuid(uid_t uid)

struct passwd {

    char *pw_name;
    char *pw_passwd;
    uid_t   pw_uid;
              ⋮

}