```
fs/open.c
               do sys open(){
                   return do sys openat2 (dfd, filename, &how);
               do sys openat2 (int dfd, const char user *filename,
                              struct open how *how)
               {
                   int fd = build open flags(how, &op);
                   fd = get unused fd flags(how->flags);
                   struct file *f = do filp open(dfd, tmp, &op);
fs/namei.c
               do filp open(int dfd, struct filename *pathname,
                            const struct open flags *op)
               {
                   set nameidata (&nd, dfd, pathname, NULL);
                   filp = path openat(&nd, op, flags, ...) -
                   restore nameidata();
                   return filp;
fs/namei.c
              path openat (struct nameidata *nd,
                           const struct open flags *op, unsigned flags)
                   file = alloc empty file (op->open flag,
                                            current cred());
                   const char *s = path init(nd, flags);
                   while (! (error = link path walk(s, nd)) &&
                          (s = open last lookups(nd, file, op)) != NULL)
                   if (!error)
                       error = do open(nd, file, op);
                   terminate walk(nd);
                   if (likely(file->f mode & FMODE OPENED))
                           return file;
```