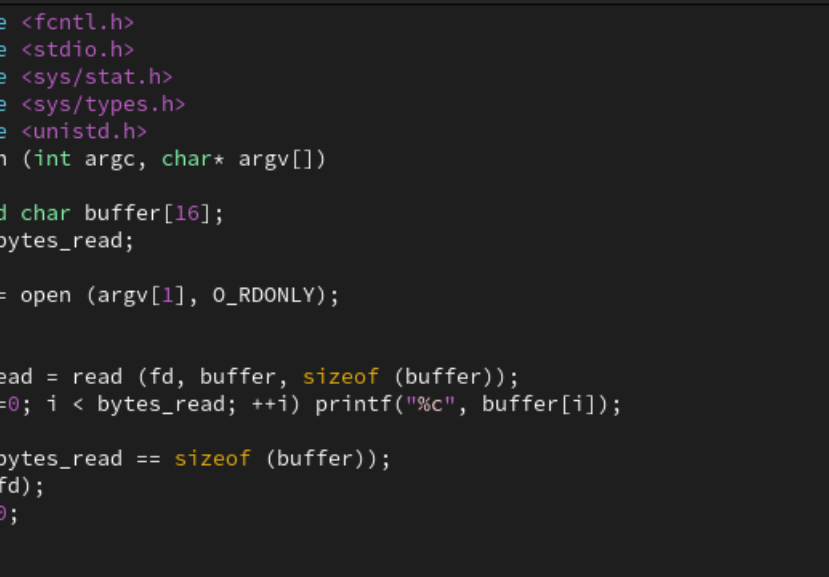```
test
[guest2@mdmalykhin ~]$ echo "test2" > /tmp/file01.txt
-bash: /tmp/file01.txt: Permission denied
[guest2@mdmalykhin ~]$ echo "test3" > /tmp/file01.txt
-bash: /tmp/file01.txt: Permission denied
[guest2@mdmalykhin ~]$ cat /tmp/file01.txt
test
[guest2@mdmalykhin ~]$ rm /tmp/fileOl.txt
rm: cannot remove '/tmp/fileOl.txt': No such file or directory
[guest2@mdmalykhin ~]$
```

```
[root@mdmalykhin guest]# ls -l / | grep tmp
drwxrwxrwt.  16 root root 4096 Oct  7 20:10 tmp
[root@mdmalykhin guest]# su - guest
[guest@mdmalykhin ~]$ echo "test" > /tmp/file01.txt
[guest@mdmalykhin ~]$ ls -l /tmp/file01.txt
-rw-r--r--. 1 guest guest 5 Oct  7 20:15 /tmp/file01.txt
[guest@mdmalykhin ~]$ chmod o+rw /tmp/file01.txt
[guest@mdmalykhin ~]$ ls -l /tmp/file01.txt
-rw-r--rw-. 1 guest guest 5 Oct  7 20:15 /tmp/file01.txt
[guest@mdmalykhin ~]$ su - guest2
Password:
[guest2@mdmalykhin ~]$ cat /tmp/file01.txt
test
[guest2@mdmalykhin ~]$ echo "test2" > /tmp/file01.txt
-bash: /tmp/file01.txt: Permission denied
[guest2@mdmalykhin ~]$ cat /tmp/file01.txt
test
[guest2@mdmalykhin ~]$ echo "test3" > /tmp/file01.txt
-bash: /tmp/file01.txt: Permission denied
[guest2@mdmalykhin ~]$ cat /tmp/file01.txt
test
[guest2@mdmalykhin ~]$ rm /tmp/fileOl.txt
rm: cannot remove '/tmp/fileOl.txt': No such file or directory
[guest2@mdmalykhin ~]$ su -
Password:
[root@mdmalykhin ~]# chmod -t /tmp
[root@mdmalykhin ~]# exit
logout
[guest2@mdmalykhin ~]$ ls -l / | grep tmp
drwxrwxrwx.  16 root root 4096 Oct  7 20:18 tmp
[guest2@mdmalykhin ~]$
```

```
[root@mdmalykhin guest]# ./readfile /etc/shadow
root:$6$dvRS6GXtufqZLfyF$8emxD0QvRZFQrs2QYjKFjH9x6SGvv.8iLFivyDBKX2b1TRNTWZba2g7
W4KP1ax/fbjUsakxwMyVUfv0UlONfU/::0:99999:7:::
bin:*:19469:0:99999:7:::
daemon:*:19469:0:99999:7:::
adm:*:19469:0:99999:7:::
lp:*:19469:0:99999:7:::
sync:*:19469:0:99999:7:::
shutdown:*:19469:0:99999:7:::
halt:*:19469:0:99999:7:::
mail:*:19469:0:99999:7:::
operator:*:19469:0:99999:7:::
games:*:19469:0:99999:7:::
ftp:*:19469:0:99999:7:::
nobody:*:19469:0:99999:7:::
systemd-coredump:!!:19609::::::
dbus:!!:19609::::::
polkitd:!!:19609::::::
avahi:!!:19609::::::
```

```
[root@mdmalykhin guest]# ./readfile readfile.c
#include <fcntl.h>
#include <stdio.h>
#include <sys/stat.h>
#include <sys/types.h>
#include <unistd.h>
int main (int argc, char* argv[])
{
unsigned char buffer[16];
size_t bytes_read;
int i;
int fd = open (argv[1], O_RDONLY);
do
{
bytes_read = read (fd, buffer, sizeof (buffer));
for (i =0; i < bytes_read; ++i) printf("%c", buffer[i]);
}
while (bytes_read == sizeof (buffer));
close (fd);
return 0;
}
[root@mdmalykhin guest]#
```

```
[root@mdmalykhin guest]# chmod u+s /home/guest/readfile.c
[root@mdmalykhin guest]# ./readfile
-bash: ./readfile: Permission denied
[root@mdmalykhin guest]# chmod 777 readfile
[root@mdmalykhin guest]# ./readfile
```

(binary/garbled output) ... SV3K ... x86_64./readfileSHELL=/bin/bashHISTCONTROL=ign

```
"readfile.c" [Permission Denied]
```

```
[root@mdmalykhin ~]# su
[root@mdmalykhin ~]# su - guest
[guest@mdmalykhin ~]$ ./readfile
-bash: ./readfile: Permission denied
[guest@mdmalykhin ~]$
```

guest@mdmalykhin:~

```
#include <fcntl.h>
#include <stdio.h>
#include <sys/stat.h>
#include <sys/types.h>
#include <unistd.h>
int main (int argc, char* argv[])
{
unsigned char buffer[16];
size_t bytes_read;
int i;
int fd = open (argv[1], O_RDONLY);
do
{
bytes_read = read (fd, buffer, sizeof (buffer));
for (i =0; i < bytes_read; ++i) printf("%c", buffer[i]);
}
while (bytes_read == sizeof (buffer));
close (fd);
return 0;
}
~
~
~
~
                                              6,4              All
```

```
[guest@mdmalykhin ~]$ ls -l simpleid
-rwsr-xr-x. 1 root guest 26064 Oct  7 19:49 simpleid
[guest@mdmalykhin ~]$ ./simpleid
e_uid=0, e_gid=1001
real_uid=1001, real_gid=1001
[guest@mdmalykhin ~]$ id
uid=1001(guest) gid=1001(guest) groups=1001(guest) context=unconfined_u:unconfin
ed_r:unconfined_t:s0-s0:c0.c1023
[guest@mdmalykhin ~]$
```

```
[guest@mdmalykhin ~]$ vi simpleid.c
[guest@mdmalykhin ~]$ gcc simpleid.c -o simpleid
[guest@mdmalykhin ~]$ ./simpleid
e_uid=1001, e_gid=1001
real_uid=1001, real_gid=1001
[guest@mdmalykhin ~]$ chown root:guest /home/guest/simpleid
chown: changing ownership of '/home/guest/simpleid': Operation not permitted
[guest@mdmalykhin ~]$ chmod u+s /home/guest/simpleid
[guest@mdmalykhin ~]$ su -
Password:
[root@mdmalykhin ~]# chown root:guest /home/guest/simpleid
[root@mdmalykhin ~]# chmod u+s /home/guest/simpleid
[root@mdmalykhin ~]#
```

guest@mdmalykhin:~ — /usr/bin/vim simpleid.c

```c
#include <sys/types.h>
#include <unistd.h>
#include <stdio.h>
int main ()
{
uid_t real_uid = getuid ();
uid_t e_uid = geteuid ();
gid_t real_gid = getgid ();
gid_t e_gid = getegid () ;
printf ("e_uid=%d, e_gid=%d\n", e_uid, e_gid);
printf ("real_uid=%d, real_gid=%d\n", real_uid,
,→ real_gid);
return 0;
}
~
~
~
~
~
~
~
~
~
~
```

```
-- INSERT --                                    4,5            All
```

guest@mdmalykhin:~

```
[guest@mdmalykhin ~]$ ls
100       dir1       Downloads  Pictures  Templates
Desktop  Documents  Music      Public    Videos
[guest@mdmalykhin ~]$ vi simpleid.c
[guest@mdmalykhin ~]$ gcc simpleid.c -o simpleid
[guest@mdmalykhin ~]$ ./simpleid
uid=1001, gid=1001
[guest@mdmalykhin ~]$ id
uid=1001(guest) gid=1001(guest) groups=1001(guest) context=unconfined_u:unconfin
ed_r:unconfined_t:s0-s0:c0.c1023
[guest@mdmalykhin ~]$
```

```c
#include <sys/types.h>
#include <unistd.h>
#include <stdio.h>
int main ()
{
        uid_t uid = geteuid ();
        gid_t gid = getegid ();
        printf ("uid=%d, gid=%d\n", uid, gid);
        return 0;
}
~
~
~
~
~
~
~
~
~
~
~
~
~
~
-- INSERT --                                              6,2-9          All
```

```
[guest2@mdmalykhin ~]$ su -
Password:
[root@mdmalykhin ~]# chmod +t /tmp
[root@mdmalykhin ~]# exit
logout
[guest2@mdmalykhin ~]$
```