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## Ερώτημα Α

### Λίστα τροποποιηθέντων αρχείων

/usr/src/servers/vfs/open.c

### Τροποποιήσεις

/usr/src/servers/vfs/open.c

Line	Code
607	if (r == OK) {
608	printf("newdir: %s %o\n", fullpath, dirmode);
609	}
610	
611	
612	}

### Screenshots αποτελεσμάτων

```
-bash-4.2# pwd
/root
-bash-4.2# mkdir test
process forked
newdir: test 755
-bash-4.2# mkdir test
process forked
mkdir: test: file exists
-bash-4.2# ls
process forked
.Xauthority      .lesshst         core.146         kati.c
.ashrc           .profile         core.151         test
.bash_history    .xsession-errors create_patch
.bashrc          ask4.c           hw4.patch
.exrc            core.11022       kati
-bash-4.2# _
```

## Ερώτημα Β

### Λίστα τροποποιηθέντων αρχείων

/usr/src/servers/servers/pm/forkexit.c

### Τροποποιήσεις

/usr/src/servers/servers/pm/forkexit.c

<i>Line</i>	<i>Code</i>
131	printf("process forked\n");
223	printf("process forked\n");

### Screenshots αποτελεσμάτων

```
-bash-4.2# pwd
/root
-bash-4.2# mkdir test
process forked
mkdir: test: file exists
-bash-4.2# ls
process forked
.Xauthority      .lesshst         core.146         kati.c
.ashrc           .profile         core.151         test
.bash_history    .xsession-errors create_patch
.bashrc          ask4.c           hw4.patch
.exrc            core.11022       kati
-bash-4.2# _
```

## Ερώτημα C

### Λίστα τροποποιηθέντων αρχείων

*/usr/src/servers/pm/table.c*

*/usr/src/include/minix/callnr.h*

*/usr/src/servers/pm/proto.h*

*/usr/src/servers/pm/Makefile*

*/usr/src/servers/pm/printpr.c*

### Τροποποιήσεις

*/usr/src/servers/pm/table.c*

<b>Line</b>	<b>Code</b>
80	do_printpr, /* 69 = printprocess */

*/usr/src/include/minix/callnr.h*

<b>Line</b>	<b>Code</b>
65	#define PRINTPR 69

*/usr/src/servers/pm/proto.h*

<b>Line</b>	<b>Code</b>
56	int do_printpr(void);

*/usr/src/servers/pm/Makefile*

<b>Line</b>	<b>Code</b>
4	printpr.c

*/usr/src/servers/pm/printpr.c*

#include <stdio.h>

#include <unistd.h>

#include "pm.h"

#include "mproc.h"

#include <sys/types.h>

```

int do_printpr() {

int procs;

clock_t utime, stime;

int i = 0;

procs = 0;

do
{
    if (mproc[i].mp_pid != 0)
    {
        if (mproc[i].mp_pid > 0)
        {
            procs++;
        }
        utime += mproc[i].mp_child_utime;
        stime += mproc[i].mp_child_stime;
        i++;
    }
    else if (mproc[i].mp_pid == 0)
    {
        i++;
    }
} while (i<NR_PROCS);

printf("processes -> %d\n", procs);

printf("user time -> %2d\n", utime);

printf("system time -> %2d\n", stime);

return 0;

}

```

### Screenshots αποτελεσμάτων

```
processes -> 38  
user time -> 143386  
system time -> 146497  
-bash-4.2# _
```

## Ερώτημα D

### Λίστα τροποποιηθέντων αρχείων

/usr/src/servers/pm/table.c

/usr/src/include/minix/callnr.h

/usr/src/servers/pm/proto.h

/usr/src/servers/pm/Makefile

/usr/src/servers/pm/givepid.c

### Τροποποιήσεις

/usr/src/servers/pm/table.c

<i>Line</i>	<i>Code</i>
81	do_givepid, /* 70 = givepid */

/usr/src/include/minix/callnr.h

<i>Line</i>	<i>Code</i>
66	#define GIVEPID 70

/usr/src/servers/pm/proto.h

<i>Line</i>	<i>Code</i>
57	int do_givepid(int var);

/usr/src/servers/pm/Makefile

<i>Line</i>	<i>Code</i>
4	givepid.c

/usr/src/servers/pm/givepid.c

```
#include "pm.h"
```

```
#include "mproc.h"
```

```
#include <sys/types.h>
```

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
#include <unistd.h>
```

```
int do_givepid(int pid)
```

```
{
```

```
    int i=0;
```

```
    int find=0;
```

```
    do {
```

```
        if (mproc[i].mp_pid == pid) {
```

```
            find=1;
```

```
        }
```

```
        i++;
```

```
    } while (i<NR_PROCS);
```

```
    pid = find;
```

```
    return pid;
```

```
}
```