

1) Linux ?

Linux 2.0 2.6 , ,

Linux

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Linux ,

Linux

, (

) , ½½ ½½

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Linux ,

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Linux : API,

,

RCU (Read-Copy Update, -

),

2) Linux ?

MS-DOS CPU , Unix

, Linux ,CPU ,

,

I/O

,

,

,

2.4 ,

,

,

CPU:

(1) CPU;

(2)

2.6 ,

3) ?

```

Linux , , 32
vmalloc ,
vmalloc ,
, 100%
, (Boot Memory) :
void* x_bootmem = NULL;
EXPORT_SYMBOL(x_bootmem);
unsigned long x_bootmem_size = 0;
EXPORT_SYMBOL(x_bootmem_size);
static int __init x_bootmem_setup(char *str)
{
x_bootmem_size = memparse(str, &str);
x_bootmem = alloc_bootmem(x_bootmem_size);
printk(Reserved %lu bytes from %p for x\nx_bootmem_size, x_bootmem);
return 1;
}
__setup(bootmem= x_bootmem_setup);

```

```

, , :
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slab ,
,
,
,

```

4) ?

(1) (Pipe): ,

(2) (named pipe): , ,

```

mkfifo mkfifo

```

(3) (Signal): , ,

```

, ;linux Unix signal
, Posix.1 sigaction( , BSD ,BSD
, , sigaction signal )

```

(4) (Message) : , Posix system V

(5) : , IPC

(6) (semaphore):

(7) (Socket):

Unix BSD , Unix :Linux
System V

5) ?
(zone based buddy system)
(buddy system) ,

alloc_pages(gfp_mask, order), __get_free_pages(gfp_mask, order)

6) Linux ?()

struct super_block, struct inode, struct file, struct dentry;

7) ?

struct file_operations

8) Linux ?

9) ?

clone(), fork(), vfork(); : sys_clone, sys_fork, sys_vfork;

10) schedule() ?

1. do_fork();

2. do_timer();

3. wake_up_process

4. setscheduler();

5. sys_sched_yield();

11) Linux ?

Linux ,

, CPU , CPU,

12) ?
 struct runqueue

13) ?
 insmod ,rmmod

14) ?
 ,

15) Linux ?
 ,Linux ,
 , ,
 Linux , math-emu,
 , : ,
 , math-emu,

16) ?
 ,

17) TLB ?
 TLB, ,
 TLB , ,

18) Linux ?
 , ,mknod

19) ?
 struct cdev,cdev_alloc() cdev ,cdev_add()
 cdev ,cdev struct kobject

20) ?
 open(),read(),write(),llseek(),realse();

21) ?
 Linux , : ,
 , , dev_t
 , 32 , 12 ,20 ,
 MKDEV(int major,int minor); dev_t

22) Linux ?

23) Linux

Linux

1. $\frac{1}{2}$ $\frac{1}{2}$, , , , ,
, , (), CPU