

Difference Between Original And Modified Files

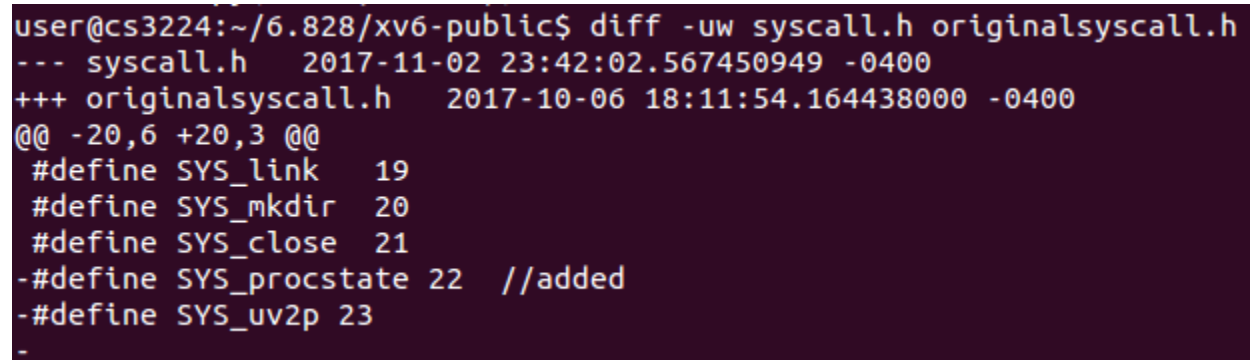
File 1:

Modified Filename: syscall.h

Original Filename: originalsyscall.h

Command: diff -uw syscall.h originalsyscall.h

Screenshot:



```
user@cs3224:~/6.828/xv6-public$ diff -uw syscall.h originalsyscall.h
--- syscall.h      2017-11-02 23:42:02.567450949 -0400
+++ originalsyscall.h  2017-10-06 18:11:54.164438000 -0400
@@ -20,6 +20,3 @@
 #define SYS_link    19
 #define SYS_mkdir   20
 #define SYS_close   21
-#define SYS_procstate 22  //added
-#define SYS_uv2p 23
-
```

File 2:

Modified Filename: defs.h

Original Filename: originaldefs.h

Command: diff -uw defs.h originaldefs.h

Screenshot:

```
user@cs3224:~/6.828/xv6-public$ diff -uw defs.h originaldefs.h
--- defs.h      2017-11-05 21:59:33.341526719 -0500
+++ originaldefs.h  2017-10-06 18:08:53.306059000 -0400
@@ -120,8 +120,6 @@
 int          wait(void);
 void         wakeup(void*);
 void         yield(void);
-int         procstate(void); //added
-int         uv2p(pde_t);
 // swtch.S
 void         swtch(struct context**, struct context*);

@@ -187,7 +185,5 @@
 int         copyout(pde_t*, uint, void*, uint);
 void        clearpteu(pde_t *pgdir, char *uva);

-
-//void* malloc(uint);
 // number of elements in fixed-size array
#define NELEM(x) (sizeof(x)/sizeof((x)[0]))
```

File 3:

Modified Filename: user.h

Original Filename: originaluser.h

Command: diff -uw user.h originaluser.h

Screenshot:

```
user@cs3224:~/6.828/xv6-public$ diff -uw user.h originaluser.h
--- user.h      2017-11-05 22:05:15.229542175 -0500
+++ originaluser.h  2017-10-06 18:14:58.048328000 -0400
@@ -23,8 +23,6 @@
 char* sbrk(int);
 int sleep(int);
 int uptime(void);
-int procstate(void); //added
-int uv2p(pde_t);
// ulib.c
int stat(char*, struct stat*);
char* strcpy(char*, char*);
```

File 4:

Modified Filename: sysproc.c

Original Filename: originalsysproc.c

Command: diff -uw sysproc.c originalsysproc.c

Screenshot:

```
user@cs3224:~/6.828/xv6-public$ diff -uw sysproc.c originalsysproc.c
--- sysproc.c      2017-11-05 22:05:27.629542735 -0500
+++ originalsysproc.c  2017-10-06 18:12:08.627665000 -0400
@@ -90,16 +90,3 @@
     return xticks;
 }

-//processstate added
-int
-sys_procstate(void)
-{
-    return procstate();
-}
-
-
-int
-sys_uv2p(pde_t val)
-{
-    return uv2p(val);
-}
```

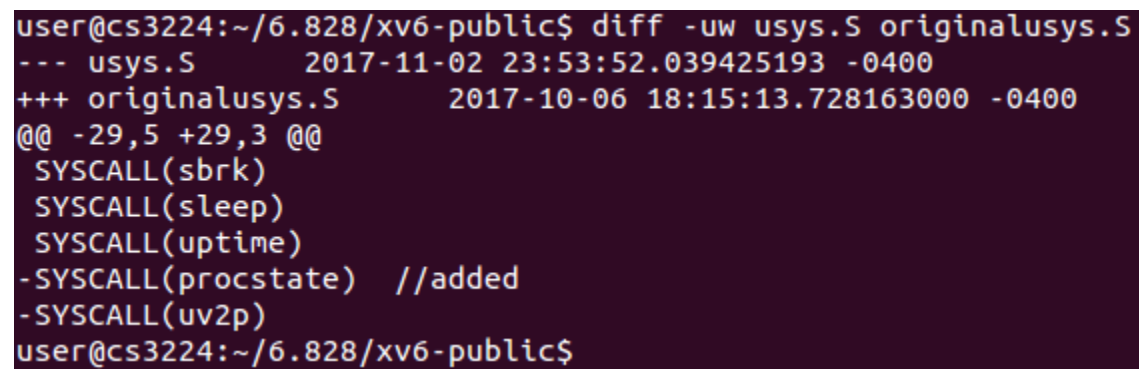
File 5:

Modified Filename: usys.S

Original Filename: originalusys.S

Command: diff -uw usys.S originalusys.S

Screenshot:



```
user@cs3224:~/6.828/xv6-public$ diff -uw usys.S originalusys.S
--- usys.S      2017-11-02 23:53:52.039425193 -0400
+++ originalusys.S  2017-10-06 18:15:13.728163000 -0400
@@ -29,5 +29,3 @@
  SYSCALL(sbrk)
  SYSCALL(sleep)
  SYSCALL(uptime)
- SYSCALL(procstate) //added
- SYSCALL(uv2p)
user@cs3224:~/6.828/xv6-public$
```

File 6:

Modified Filename: syscall.c

Original Filename: originalsyscall.c

Command: diff -uw syscall.c originalsyscall.c

Screenshot:

```
user@cs3224:~/6.828/xv6-public$ diff -uw syscall.c originalsyscall.c
--- syscall.c      2017-11-05 22:15:32.957570101 -0500
+++ originalsyscall.c  2017-10-06 18:11:45.508112000 -0400
@@ -103,8 +103,6 @@
 extern int sys_wait(void);
 extern int sys_write(void);
 extern int sys_uptime(void);
-extern int sys_procstate(void); // added
-extern int sys_uv2p(void);

static int (*syscalls[])(void) = {
  [SYS_fork]    sys_fork,
@@ -128,8 +126,6 @@
  [SYS_link]    sys_link,
  [SYS_mkdir]   sys_mkdir,
  [SYS_close]   sys_close,
-[SYS_procstate] sys_procstate, //added
-[SYS_uv2p]     sys_uv2p,
};
```

File 7:

Modified Filename: proc.c

Original Filename: originalproc.c

Command: diff -uw proc.c originalproc.c

Screenshot:

```
user@cs3224:~/6.828/xv6-public$ diff -uw proc.c originalproc.c
--- proc.c      2017-11-07 01:58:02.208724534 -0500
+++ originalproc.c  2017-10-06 18:11:24.605667000 -0400
@@ -6,7 +6,7 @@
 #include "x86.h"
 #include "proc.h"
 #include "spinlock.h"
-//#include "stdlib.h"
+
 struct {
     struct spinlock lock;
     struct proc proc[NPROC];
@@ -532,92 +532,6 @@
     cprintf("\n");
 }
 }
-// procstate added
-int
-procstate()
-{
-    struct proc *p;
-    // enable interrupts on this processor
-    sti();
-
-    // loop over process table looking for process id
-    acquire(&ptable.lock);
-    cprintf("_____ \n");
-    cprintf("Name  \t State \t\t Pid \t Memory \t \n");
-    cprintf("----- \n");
-    for(p = ptable.proc; p < &ptable.proc[NPROC]; p++){
-        if(p->state == SLEEPING){
-            cprintf("%s \t Sleeping \t %d \t %d KBytes\n", p->name, p->pid, (p->sz%1024));
-        }
-    }
-}
```

```

));
-   }
-   else if(p->state == RUNNING){
-       cprintf("%s \t Running \t %d \t %d KBytes\n",p->name,p->pid,(p->sz%1024
));
-   }
-   else if(p->state == RUNNABLE){
-       cprintf("%s \t Runnable \t %d \t %d KBytes\n",p->name,p->pid,(p->sz%1024
));
-   }
-   else if(p->state == ZOMBIE){
-       cprintf("%s \t Zombie \t %d \t %d KBytes\n",p->name,p->pid,(p->sz%1024))
;
-   }
-   else if(p->state == EMBRYO){
-       cprintf("%s \t Embryo \t %d \t %d KBytes\n",p->name,p->pid,(p->sz%1024))
;
-   }
-   }
-   }

-   cprintf("-----\n");
-   release(&ptable.lock);
-   return 22;
-}

```

```

-pde_t* get_pagedirectory(void)
-{
-   pde_t* page_directory;
-   asm ("\t movl %%cr3, %0" : "=r" (page_directory));
-   return page_directory;
-}

-int uv2p(pde_t val)
-{
-
-   pde_t* value = (pde_t*) &val;
-   pde_t virtualdd;
-   virtualdd = (pde_t) value; // Virtual address assignment
-   cprintf("Virtual Address: %x\n",virtualdd); // Virtual address
-   int offset = ((virtualdd) &0xFFF); // Extracting last 12 bits of va to
get offset
-   cprintf("Offset: %x\n",offset);
-   pde_t* pgdir=get_pagedirectory(); // calling get pagedirectory to get
the CR3 base register value
-   cprintf("Page directory address base (cr3): %p\n",pgdir); // display bas
e of Page Directory
-   pde_t globalpt = (pde_t) pgdir +(4*(PDX(value))); // PDX gives first 10
bits of va * size of PDE(4) + Cr3 register
-   globalpt=P2V_W0(globalpt);
-   pde_t* pdd = (pde_t*) globalpt;
-   if(*pdd & PTE_P){ //protection check present bit
-       cprintf("Points to PDE (cr3+(PDI*size of PDE)): %x\n",globalpt)
; // Display PDE
-       pde_t* pgdir_value = (pde_t*) globalpt;
-       pde_t pgdir_val = PTE_ADDR(*pgdir_value); // extracting the PPN
of PDE using PTE_ADDR(20 bits)
-       cprintf("Points to Page Table Start position: %p\n",pgdir_val);/

```



```

/ Display base of page table
-         globalpt = pgdir_val +(4*(PTX(value))); //PTX gives Middle 10 bi
ts(12-21) of va * size of PTE(4) + PPN Of PDE
-         globalpt=P2V_W0(globalpt);
-         pde_t* pee = (pde_t*) globalpt;
-         if(*pee & PTE_P){ //protection check present bit
-             if(*pee & PTE_P){ //protection check User mode bit
-                 cprintf("PTE Address (PPN of PDE +(PTI*size of P
TE)): %x\n",globalpt);//Display PTE address
-                 pde_t* pgtable_value=(pde_t*) globalpt;
-                 pde_t pgtable_val = PTE_ADDR(*pgtable_value); //
Extract PPN of PTE(20 bits) using PTE_ADDR
-                 pde_t pa= pgtable_val|offset; // PPN of the PTE
+ Offset
-                 cprintf("Physical Address: %x\n",pa); // Dispay
the physical address
-             }
-             else{
-                 cprintf("User process can't access this page - P
rotection \n");
-             }
-         }
-         else{
-             cprintf("You don't have the page in Physical memory - Pa
ge Fault exception\n");
-         }
-     }
-     else{
-         cprintf("You don't have the PTE - Page Fault exception\n");
-     }
-     return 23;
-}

```

Extra Files added for Implementation of uv2p() syscall :

- uv2p.c