SEMINAR 12
SIGNALS

SIGNAL CAN BE ISSUED BY

> KERNEL

> OTHER PROCESS (SHOULD BE OWNED BY SAME USER OR ROOT)

> PROCESS ITSELF

POSSIBLE ACTIONS

> STANDARD HANDLER

> IGNORE

> USER-DEFINED FUNCTION (EXCEPT SIGSTOP AND SIGKILL)

IF PROCESS IS TERMINATED BY A SIGNAL THEN RETURN CODE IS UNDEFINED

MAN 7 SIGNAL

CONTAINS USEFUL INFORMATION ON SIGNAL SEMANTICS AND DEFAULT ACTION

KILL IS USED TO SEND SIGNAL TO SEND SIGNAL

RAISE SENDS SIGNAL TO SELF
ABORT SENDS **SIGABRT** TO SELF
ALARM SENDS **SIGALRM** AFTER DELAY

SIGUSR1 & SIGUSR2
HAVE USER-DEFINED SEMANTICS

SIGNAL IS THE SIMPLEST WAY TO HANDLE SIGNAL

SIGNAL SEMANTICS

BSD

SYSTEM V

SIGNAL HANDLER STAYS

RESET AFTER EACH SIGNAL

NO REENTRY

REENTERING HANDLER

BLOCKING SYSCALLS RESTART

BLOCKING SYSCALLS TERMINATE

SIGACTION OFFERS A CONSISTENT WAY TO HANDLE SIGNALS

SIGNAL SHOULD NOT BE USED UNLESS YOU ARE SETTING SIG_IGN OR SIG_DFL

SIGNAL HANDLERS ARE DANGEROUS

LET'S TALK ABOUT
INTERNALS AND IMPLICATIONS

EACH PROCESS HAS AN ASSOCIATED SIGNAL MASK

SIGSET_T DESCRIBES **SIGNAL SET**

```
sigemptyset(sigset_t *set);
sigfillset(sigset_t *set);
sigaddset(sigset_t *set, int signum);
sigdelset(sigset_t *set, int signum);
sigismember(sigset_t *set, int signum);
```

SIGPROCMASK ALLOWS TO BLOCK SOME SIGNALS

BLOCKED SIGNAL WILL BE DELIVERED AS SOON AS IT GETS UNBLOCKED

SIGSUSPEND TEMPORARILY REPLACES SIGNAL MASK

REAL-TIME SIGNALS
STORE INFORMATION ON
NUMBER AND ORDER

TO USE SIGNAL QUEUE. SEND THEM WITH SIGQUEUE