

RACE CONDITION IN UNIX

- Race condition occurs when multiple process are trying to do something with shared data and final out come depends on the order in which the processes run

Program with race condition

```
#include <sys/types.h>
#include "ourhdr.h"
static void charatotime(char *);
int main(void)
{
    pid_t pid;
    if ( (pid = fork()) < 0)
        err_sys("fork error");
    else if (pid == 0)
    {
        charatotime("output from child\n");
    }
    else
    {
        charatotime("output from parent\n");
    }
    exit(0);
}
static void
charatotime(char *str)
{
    char *ptr;
    int c;
    setbuf(stdout, NULL);
    /* set unbuffered */
    for (ptr = str; c = *ptr++; )
        putc(c, stdout);
}
```

```

}
/*altered program*/
#include <sys/types.h>
#include "ourhdr.h"
static void charatotime(char *);
Int main(void)
{
    pid_t pid;
    TELL_WAIT();
    if ( (pid = fork()) < 0)
        err_sys("fork error");
    else if (pid == 0)
    {
        WAIT_PARENT();    /* parent goes first */
        charatotime("output from child\n");
    }
    else {
        charatotime("output from parent\n");
        TELL_CHILD(pid);
    }
    exit(0);
}
static void charatotime(char *str)
{
    char *ptr;
    int c;
    setbuf(stdout, NULL);
        /* set unbuffered */
    for (ptr = str; c = *ptr++; )
        putc(c, stdout);
}

```