

```
int
main(int argc, char *argv)
{
    printf("The factorial of 10 is %d\n",
           fact(10));
}
```

```
int
fact(int n)
{
    if (n<1) {
        return(1);
    }
    else {
        return(n*fact(n-1));
    }
}
```

```
main:   subu $sp, $sp, 32
        sw  $ra, 20($sp)
        sw  $fp, 16($sp)
        addu $fp, $sp, 28

        li  $a0, 10
        jal fact
```

```
0x00400038   la  $a0, STRING
           move $a1, $v0
           jal printf

           lw  $ra, 20($sp)
           lw  $fp, 16($sp)
           addu $sp, $sp, 32
           jr  $ra
```

```
fact:   subu $sp, $sp, 32
        sw  $ra, 20($sp)
        sw  $fp, 16($sp)
        addu $fp, $sp, 28
        sw  $a0, 0($fp)
        lw  $v0, 0($fp)
        bgtz $v0, L2
        li  $v0, 1
        j   L1
```

```
L2:     lw  $v1, 0($fp)
        subu $v0, $v1, 1
        move $a0, $v0
        jal fact
```

```
0x0040008C   lw  $v1, 0($fp)
           mul $v0, $v0, $v1
```

```
L1:     lw  $ra, 20($sp)
        lw  $fp, 16($sp)
        addu $sp, $sp, 32
        j   $ra
```

0x7FFFEDC0	0x7FFFEDFC 0x0040008C
0x7FFFEDDC 0x7FFFEDDE0	9
0x7FFFEDFC 0x7FFFEE00	0x7FFFEE1C 0x00400038
0x7FFFEE1C 0x7FFFEE20	10
	0x00000000 0x00400018