

```
int factorial(int n){
```

(Argument n in \$a0)

```
    if (n < 1) return 1;
```

(Result in \$v0)

```
    else return factorial(n-1) * n;
```

```
}
```

```
FACTORIAL: ADDIU sp sp -8
```

```
RET1: ADDIU v0 r0 1
```

```
    SW ra[sp+4]
```

```
    LW t2[sp+0]
```

```
    SW a0[sp+0]
```

```
    LW ra[sp+4]
```

```
    ADDIU t0 r0 1
```

```
    ADDIU sp sp 8
```

```
    SLT t1 a0 t0
```

```
    JR ra
```

```
    BNE t1 r0 RET1
```

```
    ADDIU a0 a0 -1
```

(t0, t1, t2 : Temporary Register)

```
    JAL FACTORIAL
```

```
    LW t2[sp+0]
```

```
    LW ra[sp+4]
```

```
    MULT v0 v0 t2
```

```
    ADDIU sp sp 8
```

```
    JR ra
```