Procedure Call

```
result = myfunction1 ( arg1, arg2, arg3);
k = result * m + 25;
      :
```

CALLER

```
int myfunction1 (--------- ) {
    int c;
      :
    return c;
}
```

CALLEE

```
0004   add $s1, $s2, $s5
0008   Jal myProc1
000C   sub $s2, $s5, $v0
         :
myProc1: ========
         Jr $ra
```

$ra = addr of follow instr.

```
int leaf_example (int g, h, i, j)
{
  int f;
  f = (g+h) - (i+j);
  return f;
}
```

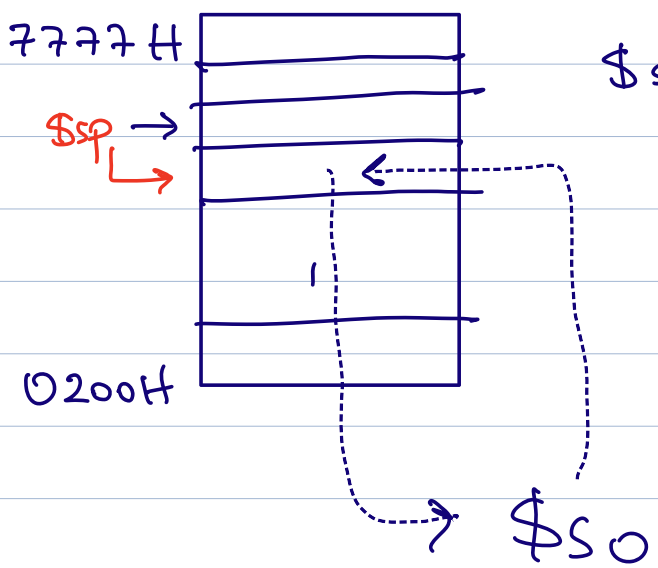
g, h, i, j

↓ ↘ ↘ ↘

$a0 $a1 $a2 $a3

f → $s0

result in $v0

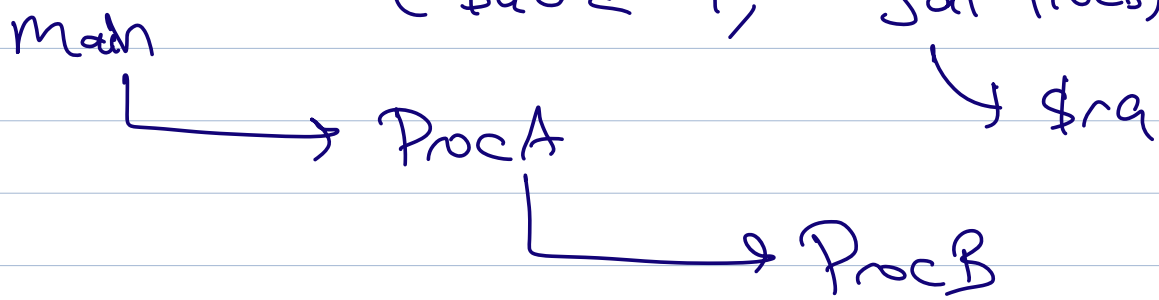


$sp: a value denoting the most recently allocated addr in stack

Assume main program calls ProcA & with an argument 3.

($a0 ← 3 Jal ProcA) → $ra

ProcA → Calls procedure B with
Jal ProcB & argument 7
($a0 ← 7, Jal ProcB)
↳ $ra




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

n → $a0
result in $v0