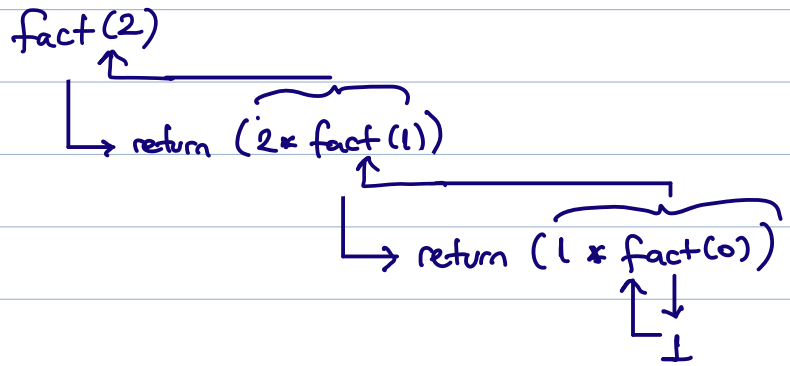
FACT FUNCTION

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

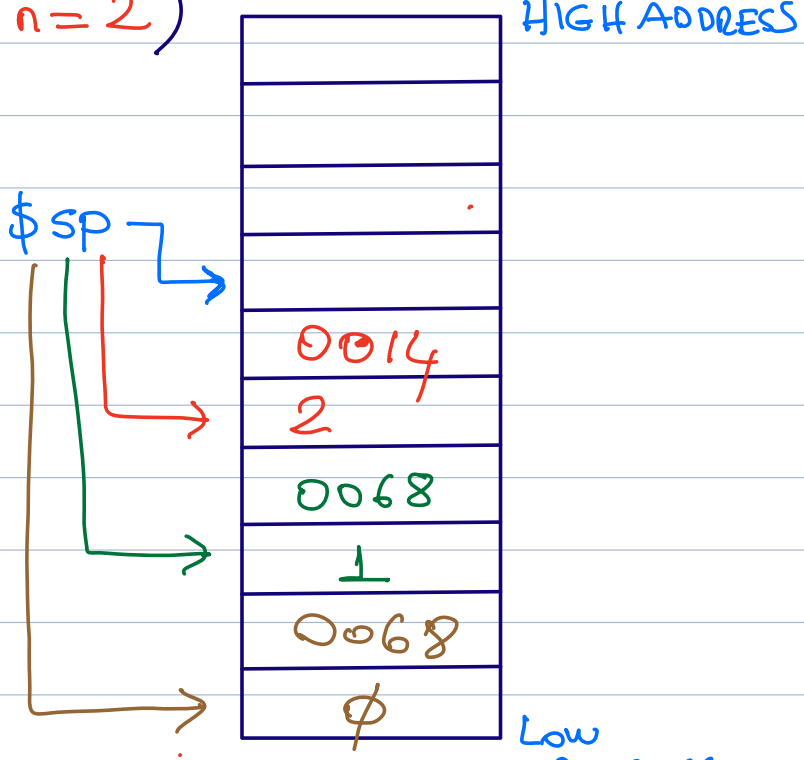
n → $a0 Result → $v0



(Let us trace for n=2)

MAIN PROG

```
      ⋮
0010  Jal fact
0014  ....
0018  ....
```



SLIDE 58

The segment of the stack containing procedure's saved registers / local variables → procedure frame

frame pointer ($fp) → point to first word of frame of a procedure

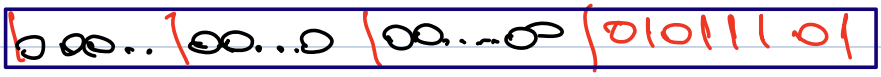
- Reference variables via stable frame pointer ($fp)

Slide 61

lb $t0, 20($s3)

↓

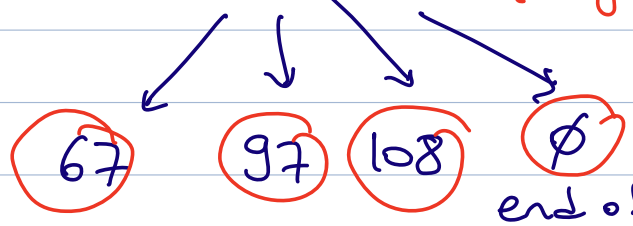
load a byte from memory



Representing Strings

1. First position gives the length of str.
2. Accompanying variable has the length
3. last position of string has end of string marker.

A string in C: "Cal" → 4 bytes



Slide 62

```
void strcpy (char x[], char y[])
  {
    int i;
    i=0;
    while ((x[i]=y[i])!='\0')
          i++;
}
```

Addr of x, y in $a0, $a1

i → $s0

$t1 ← Addr of y[i] ($s0 + $a1)

* Not multiply i by 4

wtfy: y is an array of bytes not words,

Exit the loop if character was ø (last char of string)