

# MIPS Assembler Directives

`.align n`

Align the next datum on a  $2^n$  byte boundary. For example, `.align 2` aligns the next value on a word boundary. `.align 0` turns off automatic alignment of `.half`, `.word`, `.float`, and `.double` directives until the next `.data` or `.kdata` directive.

`.ascii str`

Store the string *str* in memory, but do not null-terminate it.

`.asciiz str`

Store the string *str* in memory and null-terminate it.

`.byte b1,..., bn`

Store the *n* values in successive bytes of memory.

`.data <addr>`

Subsequent items are stored in the data segment. If the optional argument *addr* is present, subsequent items are stored starting at address *addr*.

`.space n`

Allocate *n* bytes of space in the current segment (which must be the data segment in SPIM).

`.text <addr>`

Subsequent items are put in the user text segment. In SPIM, these items may only be instructions or words (see the `.word` directive below). If the optional argument *addr* is present, subsequent items are stored starting at address *addr*.

`.word w1,..., wn`

Store the *n* 32-bit quantities in successive memory words.

```
if (x < 10) {  
    ...  
}
```

```
slti $t0, $t4, 10      # immediate version of slt  
____ $t0, $zero, skip_if_body # beq(a) or bne(b)?
```

```
char A[4] = {1, 2, 3, 4};
```

```
int result;
```

```
result = A[0] + A[1] + A[2] + A[3];
```

```
if (v0 < 0)  
    v0 --;
```

```
else  
    v0 ++;  
v1 = v0;  
E:  
L:
```