Example: Alignment

```
        .data
x:          .byte     0x0,0x1,0x2,0x3,0x4,0x5,0x6,0x7,0x8
        .text                       # ALIGNED?
la          $t0,x
lw          $t1,0($t0)      #
lh          $t1,1($t0)      #
lw          $t1,3($t0)      #
addi        $t0,$t0,-3
lh          $t1,6($t0)      #
```

Example: Alignment

```
        .data
x:          .byte       0x0,0x1,0x2,0x3,0x4,0x5,0x6,0x7,0x8
        .text                       # ALIGNED?
la          $t0,x
lw          $t1,0($t0)      # YES
lh          $t1,1($t0)      # NO
lw          $t1,3($t0)      # NO
addi        $t0,$t0,-3
lh          $t1,7($t0)      # YES (7+-3=4)
```

Example: Endianness

low address

```
.data
x:          .byte       0x10,0x21,0x32,0x43
.text
la          $s0,x                   # BIG ENDIAN    LITTLE ENDIAN
lw          $t0,0($s0)              #
lh          $t1,0($s0)              #
lh          $t2,2($s0)              #
```

Example: Endianness

low address

```
            .data
x:          .byte     0x10,0x21,0x32,0x43
            .text
la          $s0,x                # BIG ENDIAN     LITTLE ENDIAN
lw          $t0,0($s0)           # 0x10213243     0x43322110
lh          $t1,0($s0)           # 0x00001021     0x00002110
lh          $t2,2($s0)           # 0x00003243     0x00004332
```