**Table:** System services.

|  |  |  |  |
| --- | --- | --- | --- |
| **Service** | **System Call Code** | **Arguments** | **Result** |
| print\_int | 1 | $a0 = integer |  |
| print\_float | 2 | $f12 = float |  |
| print\_double | 3 | $f12 = double |  |
| print\_string | 4 | $a0 = string |  |
| read\_int | 5 |  | integer (in $v0) |
| read\_float | 6 |  | float (in $f0) |
| read\_double | 7 |  | double (in $f0) |
| read\_string | 8 | $a0 = buffer, $a1 = length |  |
| sbrk | 9 | $a0 = amount | address (in $v0) |
| exit | 10 |  |  |
| print\_character | 11 | $a0 = character |  |
| read\_character | 12 |  | character (in $v0) |
| open | 13 | $a0 = filename, | file descriptor (in $v0) |
|  |  | $a1 = flags, $a2 = mode |  |
| read | 14 | $a0 = file descriptor, | bytes read (in $v0) |
|  |  | $a1 = buffer, $a2 = count |  |
| write | 15 | $a0 = file descriptor, | bytes written (in $v0) |
|  |  | $a1 = buffer, $a2 = count |  |
| close | 16 | $a0 = file descriptor | 0 (in $v0) |
| exit2 | 17 | $a0 = value |  |

**Set on Less Than**

The **set** instructions are used to implement relational operators. However, they do not in themselves alter the flow of control. They set a register to 1 or 0 to show the relation between two values. The slt instruction is used with two's complement integers:

# $s and $t contain

# signed integers

#

slt d,s,t # if ( $s < $t )

# d = 1

# else

# d = 0

The sltu instruction is used with unsigned integers:

# $s and $t contain

# unsigned integers

#

sltu d,s,t # if ( $s < $t )

# d = 1

# else

# d = 0