

# **MIPS ASSEMBLY**

## **MIPS REGISTER NAMES**

- For MIPS assembly, many registers have alternate names or specific uses.

| Register     | Name(s)          | Use                                      |
|--------------|------------------|------------------------------------------|
| <b>0</b>     | <b>\$zero</b>    | <b>always zero (0x00000000)</b>          |
| <b>1</b>     |                  | <b>reserved for assembler</b>            |
| <b>2-3</b>   | <b>\$v0-\$v1</b> | <b>results and expression evaluation</b> |
| <b>4-7</b>   | <b>\$a0-\$a3</b> | <b>arguments</b>                         |
| <b>8-15</b>  | <b>\$t0-\$t7</b> | <b>temporary values</b>                  |
| <b>16-23</b> | <b>\$s0-\$s7</b> | <b>saved values</b>                      |
| <b>24-25</b> | <b>\$t8-\$t9</b> | <b>temporary values</b>                  |
| <b>26-27</b> |                  | <b>reserved for operating system</b>     |
| <b>28</b>    | <b>\$gp</b>      | <b>global pointer</b>                    |
| <b>29</b>    | <b>\$sp</b>      | <b>stack pointer</b>                     |
| <b>30</b>    | <b>\$fp</b>      | <b>frame pointer</b>                     |
| <b>31</b>    | <b>\$ra</b>      | <b>return address</b>                    |