# CSE 430: DSD Lab

ALU Specification 1

|  |  |  |  |
| --- | --- | --- | --- |
| S2 | S1 | S0 | Operation |
| 0 | 0 | 0 | A + B |
| 0 | 0 | 1 | A – B |
| 0 | 1 | 0 | A – 1 |
| 0 | 1 | 1 | A + 1 |
| 1 | 0 | 0 | A ⊕ B |
| 1 | 0 | 1 | A∙B |
| 1 | 1 | 0 | Ā |
| 1 | 1 | 1 | A or B |

ALU Specification 2

|  |  |  |  |
| --- | --- | --- | --- |
| S2 | S1 | S0 | Operation |
| 0 | 0 | 0 | A – B |
| 0 | 0 | 1 | A + B |
| 0 | 1 | 0 | A + 1 |
| 0 | 1 | 1 | A – 1 |
| 1 | 0 | 0 | A∙B |
| 1 | 0 | 1 | A ⊕ B |
| 1 | 1 | 0 | A or B |
| 1 | 1 | 1 | Ā |

ALU Specification 3

|  |  |  |  |
| --- | --- | --- | --- |
| S2 | S1 | S0 | Operation |
| 0 | 0 | 0 | A + 1 |
| 0 | 0 | 1 | A – 1 |
| 0 | 1 | 0 | A – B |
| 0 | 1 | 1 | A + B |
| 1 | 0 | 0 | A or B |
| 1 | 0 | 1 | Ā |
| 1 | 1 | 0 | A∙B |
| 1 | 1 | 1 | A ⊕ B |

ALU Specification 4

|  |  |  |  |
| --- | --- | --- | --- |
| S2 | S1 | S0 | Operation |
| 0 | 0 | 0 | A – 1 |
| 0 | 0 | 1 | A + 1 |
| 0 | 1 | 0 | A + B |
| 0 | 1 | 1 | A - B |
| 1 | 0 | 0 | Ā |
| 1 | 0 | 1 | A or B |
| 1 | 1 | 0 | A ⊕ B |
| 1 | 1 | 1 | A∙B |

ALU Specification 5

|  |  |  |  |
| --- | --- | --- | --- |
| S2 | S1 | S0 | Operation |
| 0 | 0 | 0 | A + 1 |
| 0 | 0 | 1 | A – B |
| 0 | 1 | 0 | A + B |
| 0 | 1 | 1 | A – 1 |
| 1 | 0 | 0 | A or B |
| 1 | 0 | 1 | A∙B |
| 1 | 1 | 0 | A ⊕ B |
| 1 | 1 | 1 | Ā |

ALU Specification 6

|  |  |  |  |
| --- | --- | --- | --- |
| S2 | S1 | S0 | Operation |
| 0 | 0 | 0 | A + B |
| 0 | 0 | 1 | A + 1 |
| 0 | 1 | 0 | A – 1 |
| 0 | 1 | 1 | A – B |
| 1 | 0 | 0 | A ⊕ B |
| 1 | 0 | 1 | A or B |
| 1 | 1 | 0 | Ā |
| 1 | 1 | 1 | A∙B |

ALU Specification 7

|  |  |  |  |
| --- | --- | --- | --- |
| S2 | S1 | S0 | Operation |
| 0 | 0 | 0 | A – B |
| 0 | 0 | 1 | A + 1 |
| 0 | 1 | 0 | A – 1 |
| 0 | 1 | 1 | A + B |
| 1 | 0 | 0 | A∙B |
| 1 | 0 | 1 | A or B |
| 1 | 1 | 0 | Ā |
| 1 | 1 | 1 | A ⊕ B |

ALU Specification 8

|  |  |  |  |
| --- | --- | --- | --- |
| S2 | S1 | S0 | Operation |
| 0 | 0 | 0 | A – B |
| 0 | 0 | 1 | A – 1 |
| 0 | 1 | 0 | A + 1 |
| 0 | 1 | 1 | A + B |
| 1 | 0 | 0 | A∙B |
| 1 | 0 | 1 | Ā |
| 1 | 1 | 0 | A or B |
| 1 | 1 | 1 | A ⊕ B |