



(b) (9 points)

The ADDI instruction **does not** require any physical hardware changes to the single cycle datapath. Fill in the table below indicating the value of all existing control lines necessary to execute the ADDI instruction on the single cycle datapath. You **must** use **don't cares** where appropriate.

| Type | Reg2 Loc | ALU Src | Mem ToReg | Reg Write | Mem Read | Mem Write | Brch | ALU op1 | ALU op0 |
|----------|-------------|------------|--------------|--------------|-------------|--------------|------|------------|------------|
| R-format | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| LDUR | X | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| STUR | 1 | 1 | X | 0 | 0 | 1 | 0 | 0 | 0 |
| CBZ | 1 | 0 | X | 0 | 0 | 0 | 1 | 0 | 1 |
| ADDI | X | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |