**Instruction Chart**

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| **CATEGORY** | **INSTRUCTION** | **EXAMPLE** | **MEANING** | **COMMENT** |
| ARITHEMATIC | add | add t1, t2, t3 | t1 = t2 + t3 | Three Operand |
| sub | sub t1, t2, t3 | t1 = t1 – t2 | Three Operand |
| addi | addi t1, t2, 2 | t1 = t2 + 2 | Use to add immediate constants |
| Data Transfer | lw | lw t1, 0(t2) | t1 = Memory[0 + t2] | Load data in register from memory |
| sw | sw t1, 0(t2) | Memory[0 + t2] = t1 | Store data in memory from register |
| li | li t1, 4 | t1 = 4 | Store immediate constant in register |
| la | la t1, arr | t1 = baseaddress(arr) | Compares label with the given dictionary and store its base address in the register. |
| Conditional branch Instructions | bne | bne t1, t2, label | if(t1 != t2) goto  lineNum(label) | Not equal test, go to line number of label. |
| beq | beq t1, t2, label | if(t1==t2) goto  lineNum(label) | Equal to test, go to line number of label |
| slt | slt t1, t2, t3 | if(t2<t3)  t1 = 1  else  t1 = 0 | Compare less and set the value of register accordingly |
| syscall | syscall | if(t19 == 10)  break; | If condition satisfied, program ends. |
| Unconditional Branch | j | j label | goto lineNum(label) | set program counter to the line number of label |

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| **Name** | **Example** | **Comment** |
| 20 Registers | t0 to t19 | Temporary location for data. Program ends by calling syscall if t19 is set to 10. |
| Max 220  words will be stored in memory | Memory.get(0) to Memory.get(220) | Memory is an integer arraylist, which stores all .data segment values. |