CIS 351 Sample AL2 Problem

25 September 2025

AL2: Assembly Branches

(a) Convert the following line of Java code to assembly: `t0 = t1 + t2 + t3 - t4 + t5`

(b) Convert the following line of Java code to assembly: `t0 = (t1 ^ t2) & (t3 | !t4)`

(c) Convert the following Java code to assembly. Your answer *must* use `slt` and either `beq` or `bne`. Do not use any pseudoinstructions. Note: This is not a function; it is simply a section of code. Set your code up as if there are more instructions following the block of code (i.e., don't use `jr $ra`).

```
if (t1 - 6 < t2) {
  t0 = t1;
} else {
   t0 = t2 + 4;
}
t1 = t1 + 7
```

(solution)