1.

What are the differences between RISC and CISC? What are some of the advantages and disadvantages?

2. Translate the following x86 instructions into MIPS:

```
a.
add 0x200(,%rdx,4),%rcx
b.
lea 0xc(%rdi),%rax
c.
mov 0x30(%rsp,%rbx,4),%rax
d.
mov %rcx,-0x30(%rsp,%rdx,4)
```

3. Translate the x86 code into MIPS. Assume variables a,b, and i are in register \$s0, \$s1, and \$t0. Assume a, b, and i are in rdi, rsi, and rdx.

## 4. What does the following MIPS code snippet do?

Loop: lw \$t0, 0(\$s0) lw \$t1, 0(\$t0) add \$t1, \$s1, \$t1 sw \$t1, 0(\$t0) addi \$s0, \$s0, 4 bne \$s0, \$s2, Loop

5. When does False Sharing occur, and how does it affect performance when parallelizing?