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.

```
for(i = 0; i < 5; i++) {
        a+=b;
}
```

```
            mov $0, rdx
.loop:      cmp $4, rdx
            jg leaveloop
            add rsi, rdi
            add $1, rdx
            jmp .loop
```

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?