

Wednesday, April 3

Name _____

6.035 Spring 2013

Miniquiz #16

5 minutes

A modern Intel processor uses dynamic instruction reordering to increase performance.

1. What is an anti-dependency? What does the processor do to dynamically handle anti-dependencies?

2. Consider the following instruction sequence:

```
1: mov (%rdi), %r10
2: add %r11, %r12
3: mov %r12, -8(%rbp)
```

Suppose that the processor dynamically executes these instructions in the order 2, 3, 1.

What must the processor do to preserve the sequential instruction stream abstraction when `%rdi` points to 0 and instruction 1 produces a page-fault?