Problem COM-2

Perform at least three standard compiler optimizations on the following C code fragment by writing the optimized version (in C) to the right.

```c
int foo(int x, int y) {
  int i = x;
  int m = 64;
  while (i == bar(x % y, m)) {
    m = baz(i + 5, m / 16);
    i += 5;
  }
  return (m);
}
```

Optimizations

Briefly describe which standard compiler optimizations you applied:

- Strength reduction: m/16 → M >> 4
- Common subexpression elimination: i + 5
- Loop invariant reduction: x % y