1. **Given the following values for boolean variables m, n, o, p, evaluate each condition.**

   m = true, n = false, o = false, p = true

   a.) `(m && o) || (n || p)`

   b.) `(!m && p && n) || o`

   c.) `(m || o) && (n || p)`

   d.) `!(m && !n && o && !p)`

2. Do a hand simulation of each program.

a.)
```
public class ExampleHK4Q2a {
    public static void main(String args[]) {
        int beta = 8;
        int gamma = 7;
        int sigma = 10;

        if (beta < sigma) {
            gamma += 3;
        }

        if (sigma >= gamma && beta > sigma) {
            System.out.println(gamma);
        } else {
            System.out.println(beta);
        }

        System.out.println(beta + "" + gamma + "" + sigma);
    }
}
```
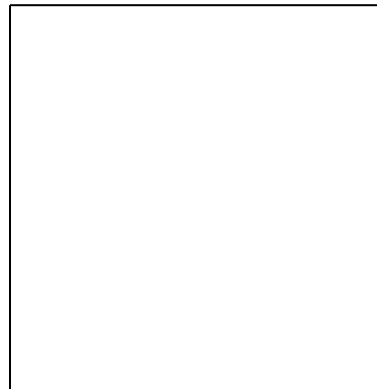
Memory

beta   ☐

gamma   ☐

sigma   ☐

Screen

b.)
```
public class ExampleHK4Q2b {
    public static void main(String args[]) {
        int phi = 1;
        int kappa = 2;

        if (kappa < ++phi) {
            phi--;
        } else if (phi == kappa) {
            kappa -= phi;
            phi--;
        }

        System.out.println(phi + "" + kappa);
    }
}
```

Memory

phi   ~~1~~   ~~2~~   1

kappa   ~~2~~   0

Screen

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