GROUP 4: Functions

Note that some of these may be trying to trick you. Pay close attention to details!

a)

```
void foo(int n) {
    int i = n - 1;
    while (i < n) {
        for(int j = 0; j < i; j++)
            bar(n);
        i++;
    }
}
void bar(int n) {
    if (n > 0)
        bar(n - 1);
    else
        return;
}

// foo is called first with n given
```

b)

```
void goo(int n) {
    int i = 0;
    while (i < n * n) {
        for(int j = 0; j < n * n; j++)
            System.out.println(baz(n, j + i));
        i++;
    }
}
int baz(int n, int t) {
    if (n > 0)
        return baz(n - 1, t + n);
    else
        return t;
}

// goo is called first with n given
```

c)

```
void roo(int n) {
    int i = 0;
    while (i < n) {
        for(int j = 1; j < n; j *= 4)
            bat(n * n);
        i++;
    }
}
void bat(int m) {
    if (m > 1)
        bat(m - 1);
    else
        return;
}

// roo is called first with n given
```

d)

```
void doo(int n) {
    int i = 0;
    while (i < n) {
        for(int j = 0; j < n; j += n)
            bak(n);
        i += n;
    }
}
int bak(int n) {
    if (n > 0 || n < 0)
        System.out.print(n);
    else
        System.out.print(1);
}

// doo is called first with n given
```

e)

```c
void too(int n) {
    int i = n;
    while (i < n) {
        for(int j = 0; j < n; j *= 2)
            i += bas(n);
        i++;
    }
}
int bas(int n) {
    if (n == 0)
        return 0;
    else if (n == 1)
        return 1;
    else
        return bas(n - 1) + bas(n - 2);
}

// too is called first with n given
```