1. How can I create in an infinite loop with a for loop?
   while (true)
   for(;;)
2. What's wrong with the following loop?

```
boolean done = false;
while (done = false) {
    ...
}
```

   The while condition uses = instead of ==
   So, when you write done = false in the loop condition, you are actually assigning the value false to the done variable, not comparing it to false. As a result, the loop condition will always evaluate to true because the assignment itself returns false, indicating that the assignment was successful.

3. Suppose that `a` and `b` are `int` values. Simplify the following expression: `(!(a < b) && !(a > b))`

```
(!(a<b) && !(a>b))
((a>=b)&& (a<=b))
a==b
```

4. What's wrong with the following loop that is intended to compute the sum of the integers 1 through 100?

```
for (int i = 1; i <= N; i++) {
   int sum = 0;
   sum = sum + i;
}
System.out.println(sum);
```

   The variable sum should be declared outside the loop. Here every time the loop runs, the sum is again initialized to 0.
5. What is wrong with the following code fragment?

```
double x = -32.2;
boolean isPositive = (x > 0);
if (isPositive = true) System.out.println(x + " is positive");
else                   System.out.println(x + " is not positive");
```

   If condition uses = instead of ==. So, when you write ispositive=true in the loop condition, you are actually assigning the value true to the ispositive variable, not comparing it to false.