For Loop

initialization

"go again" condition

change statement

```
for ( int i = 0 ;   i < 10 ;  i++ )
{

        System.out.println( "Hi There!!!")

}
```
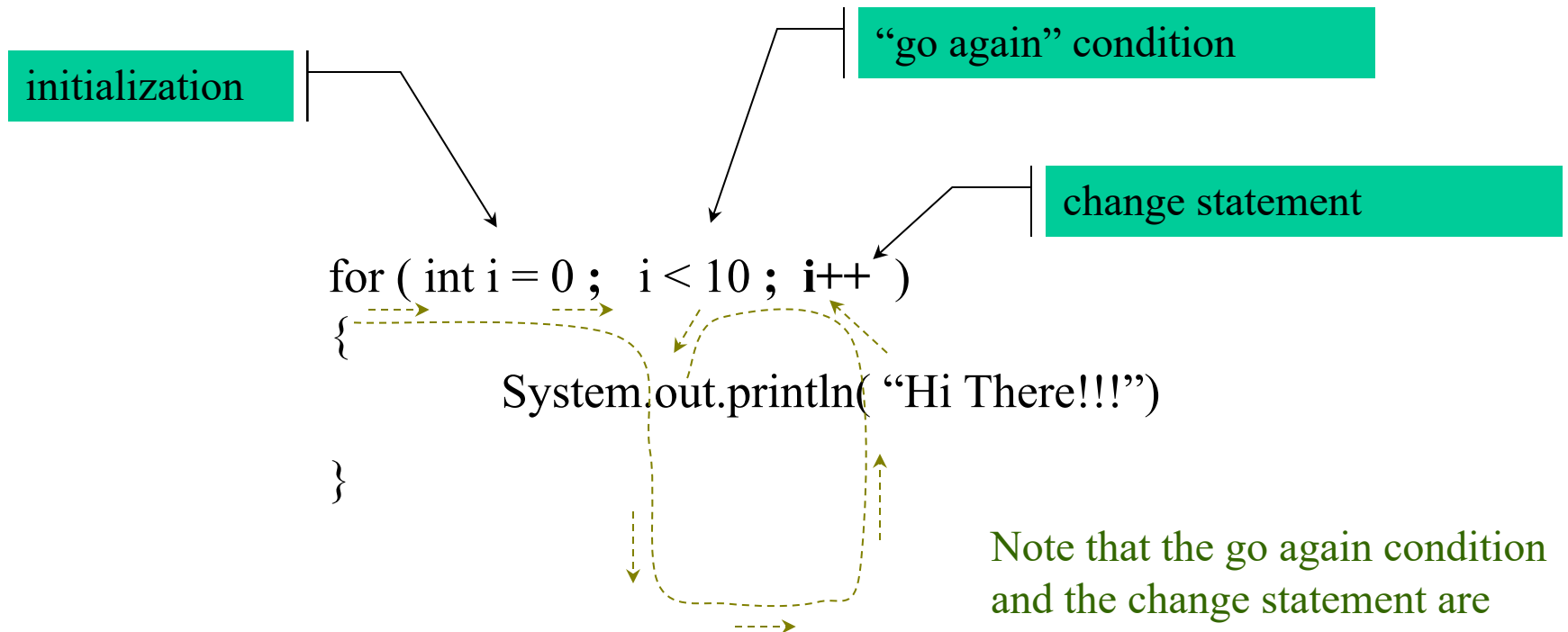
4 Steps of execution, 3 of which repeat:

1) initialization
2) check the "go again" condition
3) execute the loop block
4) execute the change statement
   go to step 2

Note that the go again condition and the change statement are executed (and evaluated) over and over again, but the initialization is executed only once.

Each of the three parts of the for loop are *optional*. So a for loop can function exactly like a while loop.

```
for (   ; i < 10 ;   )
{
    System.out.println( i );
    i++ ;
}
```

identical result

```
while ( i<10 )
{
    System.out.println( i );
    i++ ;
}
```

When to use a **while** as versus a **for** loop

One style rule: If you (as the programmer) know BEFORE the loop starts, how many iterations the loop will repeat, use a for loop. Otherwise use a while loop. This makes your code easy to read.

Another way to go: However, since the for loop is extremely flexible, some programmers use a for loop for almost everything. – they need to use a few more comments, but an acceptable approach.

You can decide which you prefer. (Personally, I prefer while loops... but hey, it's only MHO!)