

More practice with "While" Loops

1.

```
int num, sum; → sum = 0;
num = 10;
```

Outputs:

55

```
while (num != -1) // -1 is known as a sentinel value
```

```
{
    sum += num;
    num--;
}
```

num	sum
10	10
9	+ 9
8	+ 8
7	+ 7
6	⋮
5	⋮
4	⋮
3	⋮
2	⋮
1	⋮
0	↓

```
System.out.println(sum);
```

2.

```
double num, sum; → sum = 0;
num = 10.5;
```

```
while (num != -1)
```

```
{
    sum += num;
    num--;
}
```

num
10.5

sum

}

who cares!

Infinite Loop

```
System.out.println(sum);
```

3.

```
// this boolean variable is called a "flag" variable
boolean divisibleBy5 = false;
int num = 5;
int iterations = 0;
```

```
while (!divisibleBy5) {
    num += 1;
    iterations++;
    if (num % 5 == 0)
        divisibleBy5 = true;
}
```

num	iterations	divby5
6	1	false
7	2	
8	3	
9	4	
10	5	

5

```
System.out.println(iterations);
```

4.

```
int num = 123;
int reverse = 0;

while (num > 0) {
    reverse = reverse * 10;
    reverse = num % 10 + reverse;
    num = num / 10;
}
```

num > 0	reverse
123 ✓	0 * 10
	0 ↓
	123 % 10 + 0
	↓
num = 123 / 10 = 12	3

```
System.out.println(reverse);
```

num = 12 / 10 = 1	3 * 10 → 30
	12 % 10 + 30 → 32

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