

# Iteration

The **while** loop

# Lecture Contents

- Iteration on the *AP CSc A Exam*
- The `while` statement
- Practice



# Iteration

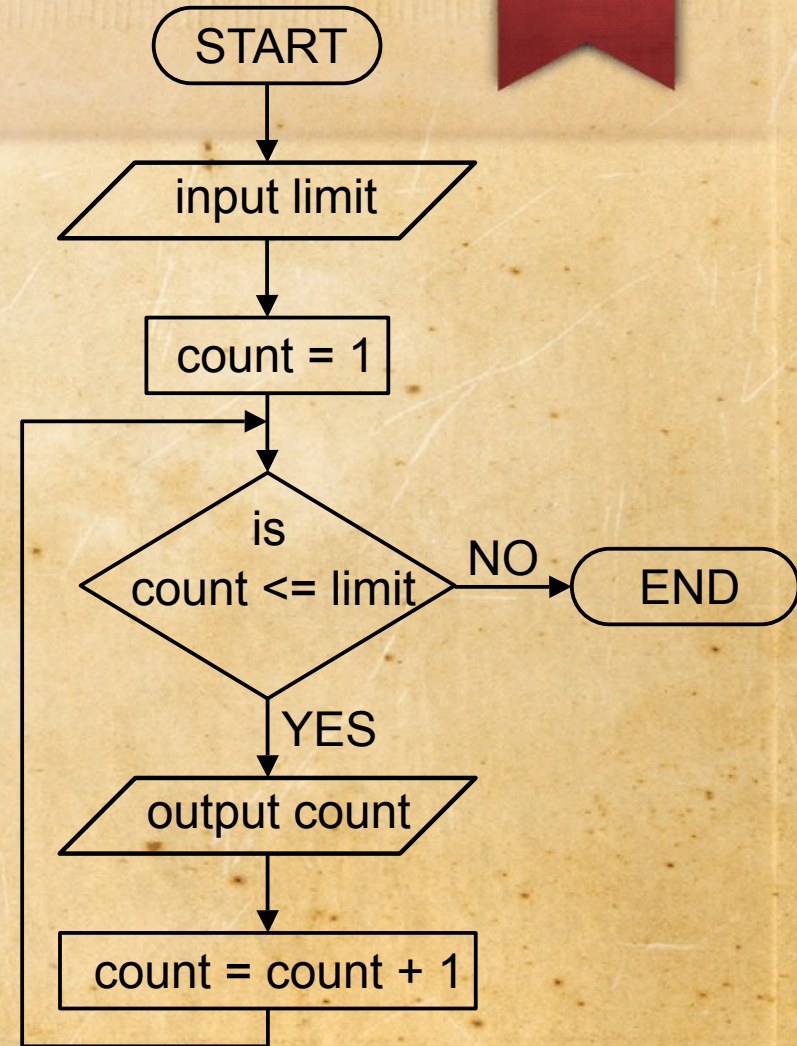
- AP Exam Weighting: **17.5% - 22.5%**
  - The `while` statement
  - The `for` statement



# while loop

- Iteration is the process of repeating a set of instructions or actions.
- In programming, iteration repeats a block of code until a condition is met.
- Consider the algorithm represented by this flowchart.
  - What is the result of following this algorithm?

Subprocess: count



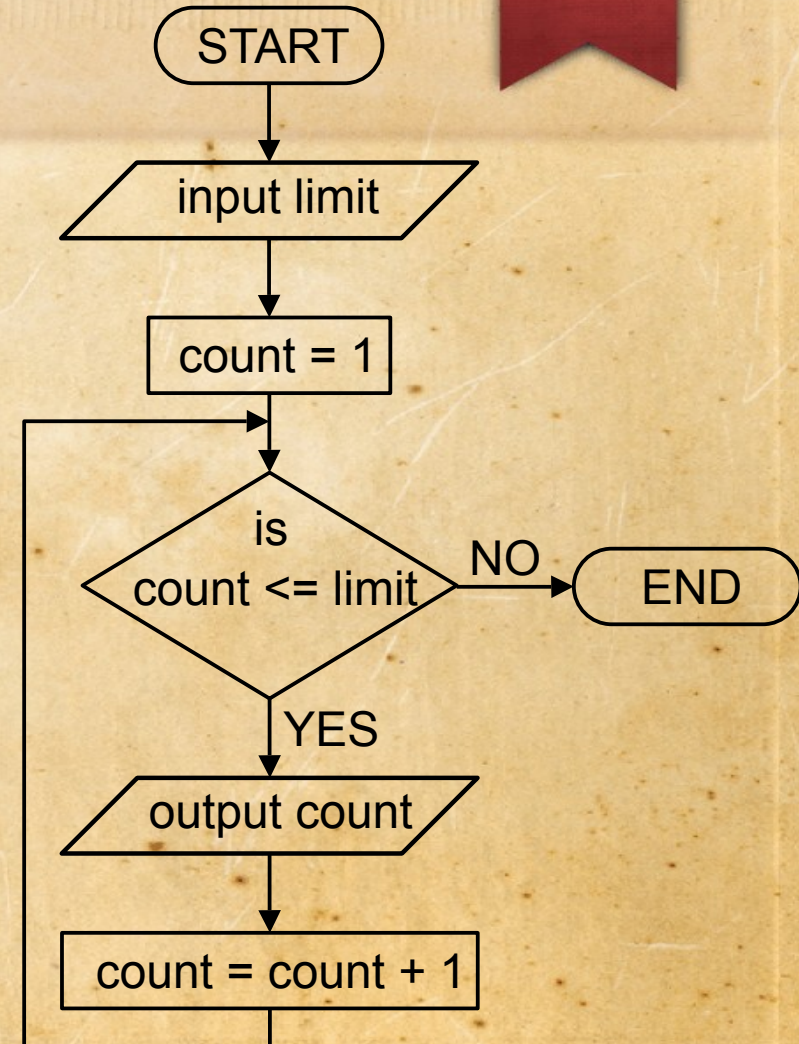


# while loop

- The algorithm represented in the flowchart can be converted into the following Java code:

```
public static void count(int limit) {  
    int count = 1;  
    while(count <= limit) {  
        System.out.println(count);  
        count += 1;  
    }  
}
```

Subprocess: count



# while loop

- Adding a main process and executing the Java code gives us the following output:

```
public static void main(String[] args) {  
    count(5);  
}
```

```
public static void count(int limit) {  
    int count = 1;  
    while(count <= limit) {  
        System.out.println(count);  
        count += 1;  
    }  
}
```

1  
2  
3  
4  
5



# Iteration

The **while** loop