[Recursion:](https://www.w3resource.com/java-exercises/recursive/index.php)

* Recursive Factoral Calculation:
  + Write a Java recursive method to calculate the factorial of a given positive integer.
* Recursive Sum from 1 to N:
  + Write a Java recursive method to calculate the sum of all numbers from 1 to n.
* Recursive Nth Fibonacci Number:
  + Write a Java recursive method to calculate the nth Fibonacci number.
* Recursive String Palindrome Check:
  + Write a Java recursive method to check if a given string is a palindrome.

Answers:

1. Write a Java recursive method to calculate the factorial of a given positive integer.

Public class Factorial {

Static int factorial(int n){

If(n == 0) {return 1;}

Return n \* factorial(n – 1);

}

Public static void main(String[] args){

System.out.println(factorial(5));

}

}

1. Write a Java recursive method to calculate the sum of all numbers from 1 to n.

public class Sum {

static int sum(int n){

if (n == 0) {return 0;} //base case

return n + sum(n – 1); //recursive case

}

Public static void main(String[] args){

System.out.println(sum(7)); // prints 28

}

}

1. Write a Java recursive method to calculate the nth Fibonacci number.

Public class Fibonacci{

Static int fib(int n){

If(n == 0 || n == 1) { return n;}

Return fib(n – 1) + fib(n – 2);

}

Public static void main(String[] args)}

System.out.println(fib(6));

}

}

1. Write a Java recursive method to ceck if a given string is a palindrome.

Public class Palindrome{

Static boolean isPalindrome(String str, int start, int end){

If(start >= end) //base case: finished checking

Return true;

If(str.charAt(start) != str.charAt(end))

Return false;

Return isPalindrome(str, start + 1, end – 1); //recursive case

}

Public static void main(String[] args){

String word = “racecar”;

System.out.println(isPalindrome(word, 0, word.length() - 1)); //prints true.

}

}

<https://create.kahoot.it/details/d728b6ca-db79-4288-bcfb-a621f0e487ae>