```java
public class intRecursor {


	public static int digitCount(int x){
		if(x == 0)
			return 0;
		return 1 + digitCount(x/10);
	}

	public static int digitSum(int x){
		if(x == 0)
			return 0;
		return x%10 + digitSum(x/10);
	}

	public static int reverseDigit(int x){
		int digits = digitCount(x);
		return reverseDigit(x, digits);
	}

	public static int reverseDigit(int x, int digits){
		if(x == 0)
			return 0;

		return (int) (x%10 * Math.pow(10, digits-1)
				+ reverseDigit(x/10, digits -1));
	}

	private static int reverseDigit3(int x, int temp){
		if(x==0)
			return temp;
		temp = temp*10 + x%10;
		return reverseDigit3(x/10, temp);
	}

	public static boolean palindrome(int x){
		int temp = reverseDigit(x);
		return palindrome(x, temp);
	}

	public static boolean palindrome(int x, int temp){
		if(x < 10)
			return x%10 == temp%10;
		if(x%10 == temp%10)
			return palindrome(x/10, temp/10);
		return false;

		//return x%10 == temp%10 && palindrome(x/10,temp/10);
	}
```

```
	public static int toBinary(int x){

		if(x < 2)
			return x;

		return x%2 + 10 * toBinary(x/2);
	}

	public static void main(String [] args){

		System.out.println("The number 871623 has "
				+ digitCount(871623) + " digits");
		System.out.println("The sum of the digits of 1234 is: "
				+ digitSum(1234));
		System.out.println("The reverse digits of 12345 is: "
				+ reverseDigit(12345));
		System.out.println("The reverse digits of 12345 is: "
				+ reverseDigit3(12345,0));
		System.out.println("Is 8769678 palindrome? "
				+ palindrome(8769678));
		System.out.println("Is 87691 palindrome? "
				+ palindrome(87691));
		System.out.println("The number 52 in binary =  "
				+ toBinary(52));
	}
}
```