

```
public class problem4_largestPalindrome {
    public static void main(String[] args) {
        int largestPalindrome = 1;

        for (int i = 100; i < 999; i++) {
            for (int j = 100; j < 999; j++) {
                int product = i * j;
                int palindromeOfProduct = findPalindrome(product);

                if (product == palindromeOfProduct && product > largestPalindrome) {
                    largestPalindrome = product;
                }
            }
        }

        System.out.println(largestPalindrome);
    }

    // create a method to find the palindrome of a number
    public static int findPalindrome(int n) {
        int palindrome = 0;
        int num = n;
        // we compare n to zero because once n has 1 digit dividing by 10 returns 0
        // we shift over the palindrome by a place value of 10 left each time and add the last
        digit while (num != 0) {
            int lastDigit = num % 10;
            palindrome = palindrome * 10 + lastDigit;
            num /= 10;
        }
        return palindrome;
    }
}
```