Problem of the Week-1: Odometer Polindromes

Palindromes are numbers that read the same right to left as they do left to right. For example, the numbers 525, 44744, 198891 are all examples of palindromes.

Suppose an automobile's odometer can represent mileage up to 999,999, and that leading 0's are not shown. For example, 2511 miles would not be shown as 002511.

How many mileage readings from 1 to 999,999 are palindromes?

What is the smallest difference between two consecutive odometer palindromes of 6 digits?

As always, explain and justify your answer.