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#include <iostream>
using namespace std;

// given an char array, it will return whether the char array is a palindrome
bool isPalindrome(char a[], int low, int high) {
   int size = high - low + 1;
   if (size < 0) return false;
   if (size == 0 || size == 1)
      return true;                              // base case

   // first and last char are the same and the remaining char array,
   // without the first and last char is a palindrome
   return (a[low] == a[high] && isPalindrome(a, low+1, high-1));
}

int main() {
   char s1[] = "madam";
   char s2typo[] = "dammmitimmad";
   char s2[] = "dammitimmad";
   char s3[] = "imalasagnahoggohangasalami";
   char s4[] = "garbage";
   bool found;

   found = isPalindrome(s1, 0, 4);
   cout << s1 << (found ? " IS a palindrome" : " IS NOT a palindrome") << endl;
   found = isPalindrome(s2typo, 0, 11);
   cout << s2typo << (found? " IS a palindrome":" IS NOT a palindrome") << endl;
   found = isPalindrome(s2, 0, 10);
   cout << s2 << (found ? " IS a palindrome" : " IS NOT a palindrome") << endl;
   found = isPalindrome(s3, 0, 25);
   cout << s3 << (found ? " IS a palindrome" : " IS NOT a palindrome") << endl;
   found = isPalindrome(s4, 0, 6);
   cout << s4 << (found ? " IS a palindrome" : " IS NOT a palindrome") << endl;

   return 0;
}
```