**Computer Science --- Prime Numbers --- Haas**

Write a JavaScript program that determines if a number entered by a user is ***prime***. A prime number only has 1 and itself as factors. Your program should allow the user to enter any number between 2 and 1,000,000.

Examples:

* 7 is a prime number because its only factor pairs are 1 X 7 and 7 X 1.
* 21 is NOT a prime because its factor pairs are 1 X 21, 3 X 7, 7 X 3, and 21 X 1.

Your program should function as follows:

* Ask the user to enter any number between 2 and 1,000,000
* Tell the user if their number is a prime or not.
* List all the factor pairs.

Hint: Use the remainder function (%) to determine in a number is a factor. For example, 3 is a factor of 12 since 12%3==0.

Example 1:

Computer>Please enter a number between 2 and 1,000,000.   
User>17   
Computer> 17 is prime!

Here are the factor pairs:

1 x 17

17 x 1

Example 2:

Computer>Please enter a number between 2 and 1,000,000.   
User>12   
Computer> 12 is NOT prime!

Here are the factor pairs:

1 x 12

2 x 6

3 x 4

4 X 3

6 X 2

12 X 1

Show Haas the complete program and save as LastNamePrimeNumbers.