

Re: Towards a Formula for Primes

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On May 10, 12:49 pm, "charlesweh...@xxxxxxxxxxxxx"
<charlesweh...@xxxxxxxxxxxxx> wrote:

Continuing the story of the search for a general formula for primes – even with the malicious "background music" that sci.math is notorious for:

I generalised the concept of a system of mathematics that moves a function across from the world of logic, and called such a system "transarithmetic".

Here is such a formula, which I have used very often, such as when writing a search engine or text comparator:

$a = b \text{ AND } 223$

I have no doubt that very, very many people have done this also. I am not suggesting therefore that "transarithmetic" has no prior Art. I am suggesting, however, that it has not been subjected to a rigorous axiomatic study.

The function I showed takes as its ARGUMENT (b) an ASCII number, and uses the MASK 223 to reset the 32s bit, therefore delivering the RESULT (a) that is upper-case ASCII. Yes – I know – there are punctuation marks &c.

By the discovery of pseudorandomness in primes, which arithmetic may be unable to deal with, I recommended that the XOR function be moved across into that arithmetic to create a "transarithmetic". Then, I thought about this deeper.

The formula that is sought is of the form (NO, bickerers, this is NOT the finished formula):

$\text{prime} = (n + a - b / c * d) \text{ xor } (n \text{ to the power } e)$

What this means is as follows:

- (1) You are looking for "prime", the RESULT.
- (2) You are using n, the ARGUMENT

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(3) You have numbers such as a, b, c, d, e at your disposal – positive whole number.

Those numbers cannot be an undiscovered prime, or you must search for a prime to begin to search for a prime.

(4) Your functions are add (+), subtract (-), divide (/), multiply (*) and XOR.

The "mirror-image twin" of XOR, the XNOR, can be substituted for the logic function.

(5) Other functions, like the square, cube and (n to the power e) are permitted, because they simply re-use the multiplication.

In the book in which he introduced the algebra, al Kwarizmi said: "I have often considered what a person requires when doing a calculation, and have decided it is a NUMBER".

Right, a number. But what KIND of number?

simplifying the above, we have
prime = f(n)

We feed IN a number n, and out comes the number "prime". It is a BOOLEAN reply that we want. We want to know simply "IS IT PRIME"? More would be less.

So, by importing a logic function into the arithmetic, I have not just introduced tools that can handle the pseudo-randomness. I have introduced the axiom of DECISION. This is the Babbage "inference", from his "inference engine". It is the Boolean "truth", where (in positive logic) zero means "false" but a number means "true".

We know that arithmetic cannot decide.

We know this because arithmetic existed for thousands of years before George Boole.

Boole's contribution was to let zero represent "false", and at its simplest, the number 1 to represent "true". This is the axiom of decision. Had it already existed, Boole would have contributed nothing.

So the reason why there is no general formula for primes is that the axioms of arithmetic are not up to the task. If a formula is purely arithmetical, it is guaranteed to be an approximation.

However, we have all the axioms we need in an "xor transarithmetic". There is just enough logic in a set like +, -, /, *, xor to cover all the parameters of primes.

We have the axioms. We have the toolkit. We do not (as yet) have the formula.

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Charles Douglas Wehner

It's quite obvious to anyone who has ever done math that you've given a great deal of thought to get to the point at which you are at in your mathematical research.

My main concern however with your approach is that in the neogenesis, or we might even say the genesis of this transarithmic approach, the "whoops" effect might cause a distant umbral mathematical bound (or DUMB) that would produce a PSEUDO-RANDOM SHIFT on the FACTORIALY IRRATIONAL set of primes thus producing (are you ready for *this*?) an ASYMPTOTICALLY STABLE SYSTEM (or ASS) of Pythagorean primes.

Now I can't say for certain if the Japanese have considered this possibility, although I do believe that the Indian Politburo had brought an individual over, an English gentleman by the name of "Jones Jones", who, if I recall correctly, claims to have found the solution to this problem, but after he got to India, there was some hub-bub about him having not brought the egg-salad sandwiches, and so he was sent back, and when he came back hit his head on the ship's deck and got amnesia, rotten spot of luck, poor chap, so we'll never quite know the answer to that one will we, unless someone like you makes it up.

Best of luck with the DUMB ASS problem alluded to earlier that you're having,
M

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