We present an Egyptian Fraction algorithm, i.e. an algorithm that computes, for a fraction $p/q$, integers $x_1, \ldots, x_k$ such that:

$$\frac{p}{q} = \frac{1}{x_1} + \frac{1}{x_2} + \ldots + \frac{1}{x_k}$$

The algorithm relies on the well known property (called Bezout identity in France): integers $q$ and $q$ are coprime if and only if it exists two integers $u$ and $v$ such that $pu + qv = 1$, and so, we propose to call it the Bezoutian algorithm.

This algorithm is simple and fast, it has some interesting properties:

- it computes at most $p$ numbers so $k \leq p$ (as the Bleicher algorithm);
- $x_1 < q^2$ ;
- $x_1 > x_2 \ldots > x_k$.

- for fractions $4/q$ if $q \neq 1 \mod 4$ then $k \leq 3$.

If we allow the integers $x_i$ to be negative, the algorithms helps to prove some known results about the Schinzel conjecture: for $a = 2, 3, 4, 5, 6, 7, 8$ then the equation

$$\frac{a}{q} = \frac{1}{x_1} \pm \frac{1}{x_2} \pm \frac{1}{x_3}$$

is always solvable for $q > a$. 

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Eventually, we present an Odd variant that computes, for a fraction $p/q$ with $q$ odd, odd denominators. The algorithm seems to compute a finite development but we have no proof. (Received September 22, 2010)