

Κώδικας Sagemath για εξαγωγή πρωταρχικών πολυωνύμων N βαθμού. Στο παρακάτω παράδειγμα $N = 10$:

```
import re

#Function for completely remove duplicates
def rdups(variable):
    if primary_polynomial.count(variable) > 1:
        return False

    return True

x = PolynomialRing(GF(2), 'x').gen()

#Size of the problem
N = 10

divisor = divisors(2**(N)-1)[1:]

factors = []

#Calculate the factors of the polynomials for each divisor
for div in divisor:
    factors.append(str(factor(x**div - 1)))

primary_polynomial = []

for factor in factors:

    #Erasing the (x+1) factor from all polynomials
    factor = factor[10:]

    #Creating a list of each individual factor
    factor = re.split('[*]', factor)

    #Storing only the highest rank polynomials of each factorization
    for poly in factor:
        if(poly.find('x^' + str(N)) != -1): primary_polynomial.append(poly.replace(' ',''))

#Completely remove duplicates
primary_polynomial = list(filter(rdups, primary_polynomial))

#Print primary_polynomials
primary_polynomial
```

Το παραπάνω τμήμα κώδικα, εξάγει τα εξής αποτελέσματα:

```
[ '(x^10+x^3+1)',  
  '(x^10+x^4+x^3+x+1)',  
  '(x^10+x^5+x^2+x+1)',  
  '(x^10+x^5+x^3+x^2+1)',  
  '(x^10+x^6+x^5+x^2+1)',  
  '(x^10+x^6+x^5+x^3+x^2+x+1)',  
  '(x^10+x^7+1)',  
  '(x^10+x^7+x^3+x+1)',  
  '(x^10+x^7+x^6+x^2+1)',  
  '(x^10+x^7+x^6+x^4+x^2+x+1)',  
  '(x^10+x^7+x^6+x^5+x^2+x+1)',  
  '(x^10+x^7+x^6+x^5+x^4+x+1)',  
  '(x^10+x^7+x^6+x^5+x^4+x^3+x^2+x+1)',  
  '(x^10+x^8+x^3+x^2+1)',  
  '(x^10+x^8+x^4+x^3+1)',  
  '(x^10+x^8+x^5+x+1)',  
  '(x^10+x^8+x^5+x^4+1)',  
  '(x^10+x^8+x^5+x^4+x^3+x^2+1)',  
  '(x^10+x^8+x^6+x+1)',  
  '(x^10+x^8+x^6+x^4+x^2+x+1)',  
  '(x^10+x^8+x^6+x^5+x^3+x+1)',  
  '(x^10+x^8+x^7+x^2+1)',  
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  '(x^10+x^8+x^7+x^6+x^5+x^4+x^2+x+1)',  
  '(x^10+x^8+x^7+x^6+x^5+x^4+x^3+x+1)',  
  '(x^10+x^9+x^4+x+1)',  
  '(x^10+x^9+x^4+x^2+1)',  
  '(x^10+x^9+x^5+x^2+1)',  
  '(x^10+x^9+x^5+x^4+x^2+x+1)',  
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  '(x^10+x^9+x^8+x^4+x^2+x+1)',  
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  '(x^10+x^9+x^8+x^7+x^6+x^4+x^3+x+1)',  
  '(x^10+x^9+x^8+x^7+x^6+x^5+x^4+x+1)',  
  '(x^10+x^9+x^8+x^7+x^6+x^5+x^4+x^3+1)']
```