Criptografia pós-quântica -> Dilithium

Descrição do Problema

Este problema é dedicado às candidaturas finalistas ao concurso NIST Post-Quantum Cryptography na categoria de assinatura digital.

> 1. O objetivo deste trabalho é a criação de protótipos em Sagemath para o algoritmo Dilithium.
> 2. Neste protótipo é implementada a versão 5++.

Abordagem

Este código, implementado em Python com a biblioteca Sagemath, define uma implementação de um protótipo do esquema de assinatura digital Dilithium. O algoritmo Dilithium, é um esquema de assinatura digital pós-quântica baseado na dificuldade em encontrar vetores curtos em reticulados, que segue uma abordagem de Modular LWE e cujo design do esquema é baseado na abordagem Fiat-Shamir with Aborts(Lyubashevsky).

O esquema Dilithium implementado consiste em três algoritmos principais: Keygen, Sign e Verify.

O código também inclui várias funções auxiliares para realizar operações como a transformação de strings em bits, a aplicação de funções de hash específicas e a geração de matrizes aleatórias de polinômios. Além disso, ele também implementa funções para decompor polinômios e calcular a norma infinita.

In [7]:

```python
# Métodos auxiliares

from hashlib import shake_128, shake_256, sha256, sha512

Zx.<x>= ZZ[]
Zq.<z>= PolynomialRing(GF(8380417))
Rq.<z>= Zq.quotient(z^256 + 1)
R.<x>= Zx.quotient(x^256 + 1)

# Converte uma string para binário
def str_to_bits(msg, print_msg=False):
    bits = ""

    for char in msg:
        byte = ord(char)
        bits += "{0:b}".format(byte).zfill(8)

    if print_msg:
        print("\"{0}\" => {1}\n".format(msg, bits))

    return bits


# Implementa um XOF (SHAKE-256)
def XOF(p, i):
    return shake_256(str(i).encode() + str(p).encode()).digest(int(2000))

#Calcula o digest dos valores 'a' e 'b' utilizando SHA-512
def G(a, b=""):
    digest = sha512(str(a).encode() + str(b).encode() ).digest()
    return digest[:32], digest[32:]


# Constrói a matriz A
```

```python
def parse(b, q, n):
    i = 0
    j = 0
    a = []

    while j < n and i + 2 < len(b):
        d1 = b[i] + 256 * b[i + 1] % 16
        d2 = b[i+1] // 16 + 16 * b[i + 2]

        if d1 < q:
            a.append(d1)
            j += 1

        elif d2 < q and j < n:
            a.append(d2)
            j += 1

        i += 3

    return a
```

Métodos necessários na classe Dilithium

KeyGen (Geração de Chaves)

O método keygen é responsável por gerar um par de chaves - uma chave pública e uma chave privada - que são usadas para a assinatura digital e a verificação da assinatura, respectivamente.

```
1. Inicia com a geração de um elemento aleatório d no anel Rq.

2. Calcula a função G em d, que é usada para obter a "seed" p.

3. Através da "seed" p e da função XOF, gera a matriz A que é composta por polinôm
ios no anel Rq.

4. Em seguida, gera duas matrizes de polinômios s1 e s2.

5. A chave pública é então calculada como pk = (p, t), onde t = A * s1 + s2. A cha
ve privada é sk = (s1, s2).

6. Finalmente, retorna a chave pública e privada.
```

O que foi feito aqui é um tipo de otimização de espaço. No Dilithium, a matriz A é gerada a partir de uma seed, a qual é gerada aleatoriamente. O fato é que essa matriz é muito grande, e guardá-la completamente em memória é bastante custoso em termos de espaço. No entanto, como ela é determinística (ou seja, a mesma seed sempre produzirá a mesma matriz A), é possível simplesmente guardar a seed e gerar A sempre que necessário.

Assim, ao invés de guardar a matriz A na chave pública e privada, optou-se por guardar apenas a seed (ρ). Quando necessário, a matriz A é recriada a partir da seed. Isto é feito em cada operação que necessita de A, como a geração da chave, a assinatura e a verificação da assinatura. Este processo economiza uma quantidade significativa de espaço, já que uma seed é muito menor do que a matriz A.

Com isto, a chave pública passa a ser composta pela seed (ρ) e por t, enquanto a chave privada passa a ser composta por s1 e s2. A seed é usada para gerar a matriz A sempre que necessário.

Sign (Assinatura)

O método Sign é utilizado para gerar uma assinatura digital para uma determinada mensagem. A assinatura é uma prova de que a mensagem foi assinada por alguém que detém a chave privada correspondente à chave pública dada.

```
1. Começa por extrair a "seed" p e a matriz t da chave pública, e as matrizes s1 e
s2 da chave privada.
```

2. A matriz A é reconstruída a partir da "seed" p usando a função XOF.

3. Em seguida, entra num loop onde gera um vetor polinomial y com coeficientes aleatórios e calcula ay = A * y e w = high_bits(ay), sendo high_bits uma função que mantém apenas os bits mais significativos de ay.

4. Calcula a função hash c da mensagem concatenada com a string representativa de w.

5. O vetor polinomial z é então calculado como z = y + c * s1.

6. Se z e ay - c * s2 satisfizerem certas condições de norma, então a assinatura é (z, c) e o loop termina. Caso contrário, o processo é repetido até que uma assinatura válida seja encontrada.

7. Por fim, retorna a assinatura (z, c).

O método sign garante que, dada uma mensagem e uma chave privada, é possível gerar uma assinatura que possa ser verificada por qualquer pessoa que possua a chave pública correspondente.

Verify (Verificação)

O método Verify é utilizado para verificar a autenticidade de uma assinatura digital para uma determinada mensagem utilizando a chave pública correspondente. O método assegura que a assinatura foi efetivamente gerada por alguém que detém a chave privada correspondente.

1. Primeiro, extrai a "seed" p e a matriz t da chave pública.

2. A matriz A é então reconstruída a partir da "seed" p utilizando a função XOF.

3. A assinatura, que é um par (z, c), é separada nas suas componentes. Aqui, z é um vetor polinomial e c é a hash da mensagem.

4. Em seguida, calcula az = A * z e w = high_bits(az - c * t), onde high_bits é uma função que mantém apenas os bits mais significativos.

5. A hash c_ da mensagem concatenada com a string representativa de w é então calculada.

6. Se z satisfaz uma certa condição de norma e c é igual a c_, a verificação é bem sucedida e retorna True. Caso contrário, retorna False.

O método verify garante que, dada uma mensagem, uma assinatura e uma chave pública, é possível verificar se a assinatura é válida e, portanto, se a mensagem é autêntica.

In [8]:

```python
class Dilithium:

    def __init__(self):
        # parâmetros versão 5++
        self.n = 256
        self.q = 2^23-2^13+1
        self.h = 60
        self.r = 1753
        self.k = 10
        self.l = 9
        self.gamma1 = 524288
        self.gamma2 = 261888
        self.eta = 2
        self.beta = 120
```

```python
    def keygen(self):
        d = Rq.random_element()
        p, _ = G(d)

        mat = []
        for i in range(self.k * self.l):
            mat.append(Rq(parse(XOF(p, i), self.q, self.n)))

        A = matrix(Rq, self.k, self.l, mat)

        S1 = self.sample_array(self.eta, self.l)
        S2 = self.sample_array(self.eta, self.k)

        t = A * S1 + S2
        self.pk = p, t
        self.sk = S1, S2

        return self.pk, self.sk


    def sign(self, m):
        p, t = self.pk
        s1, s2 = self.sk

        mat = []
        for i in range(self.k * self.l):
            mat.append(Rq(parse(XOF(p, i), self.q, self.n)))
        A = matrix(Rq, self.k, self.l, mat)

        while True:
            y = self.sample_array(self.gamma1 - 1, self.l)
            ay = A * y
            w = self.high_bits(ay)

            c = self.hashes(m + str(w))
            cq = Rq(c)
            z = y + cq * s1

            az = A * z

            try:
                if self.infinity_norm(z) >= self.gamma1 - self.beta and self.infinity_no
rm(self.low_bits(ay - cq * s2)) >= self.gamma2 - self.beta:
                    continue
                else:
                    break
            except:
                continue

        return z, c


    def verify(self, pk, m, sig):
        p, t = pk

        mat = []
        for i in range(self.k * self.l):
            mat.append(Rq(parse(XOF(p, i), self.q, self.n)))
        A = matrix(Rq, self.k, self.l, mat)

        z, c = sig
        cq = Rq(c)
        az = A * z
        w = self.high_bits(az - cq * t)

        c_ = self.hashes(m + str(w))

        if self.infinity_norm(z) < self.gamma1 - self.beta and c_ == c:
            return True
        else:
```

```python
                return False


    # Função de decompose, seguindo a documentação
    def decompose(self, c, alfa):
        r = mod(c, self.q)
        r0 = int(mod(r, int(alfa)))
        if r0 > alfa / 2:
            r0 = r0 - int(alfa)

        if r - r0 == self.q - 1:
            r1 = 0
            r0 = r0 - 1
        else:
            r1 = (r - r0) / (int(alfa))
        return r1, r0


    # Função auxiliar de high_bits
    def high_bits_aux(self, c):
        x, _ = self.decompose(c, 2 * self.gamma2)
        return x


    # Função auxiliar de low_bits
    def low_bits_aux(self, c):
        _, x = self.decompose(c, 2 * self.gamma2)
        return x


    # Função high_bits, seguindo a documentação
    def high_bits(self, pol):
        k = pol.list()
        for i in range(len(k)):
            h = k[i]
            h = h.list()

            for j in range(len(h)):
                h[j] = self.high_bits_aux(int(h[j]))

            k[i] = h

        return k


    # Função low_bits, seguindo a documentação
    def low_bits(self, pol):
        k = pol.list()
        for i in range(len(k)):
            h = k[i]
            h = h.list()

            for j in range(len(h)):
                h[j] = self.low_bits_aux(int(h[j]))

            k[i] = h

        return k


    # Gera um array de polinómios
    def sample_array(self, lim, tam):
        S = []
        for i in range(tam):
            pol = []

            for j in range(self.n):
                pol.append(randint(1, lim))

            S.append(Rq(pol))

        S = matrix(Rq, tam, 1, S)
```

```python
        return S


    # Calcula Hash e transforma numa lista de coeficientes
    def hashes(self, val):
        seed = XOF(val, "")
        vals = ''.join([bin(byte)[2:] for byte in seed])

        H = []
        contador = 0
        contador_num = 0

        for i in range(0, self.n, 2):
            u = vals[i] + vals[i + 1]
            contador += 1

            if u == '11':
                H.append(0)
                contador_num += 1
            elif u == '01':
                H.append(1)
                contador_num += 1
            elif u == '10':
                H.append(-1)
                contador_num += 1

            if contador_num >= self.h:
                break

        for i in range(self.n - contador_num):
            H.append(0)

        return H


    # Função auxiliar de infinity_norm
    def infinity_norm_aux(self, pol, n):
        J = pol.list()

        for i in range(len(J)):
            k = J[i]
            K = k.list()

            for j in range(len(K)):
                K[j] = abs(int(K[j]))

            J[i] = K

        L = []
        for i in range(len(J)):
            L.append(max(J[i]))

        return max(L)


    # Calcula a norma infinita
    def infinity_norm(self, vetor):
        res = []
        for i in range(vetor.nrows()):
            norm = self.infinity_norm_aux(vetor[i], self.q)
            res.append(norm)

        return int(max(res))


    # Função power2round, seguindo a documentação
    def power2round(self, w, n):
        r = (n - 1)//2

        return Zx(map(lambda x: lift(x + r) - r, w.list()))
```

Exemplo de execução

```python
# Cria uma instância da classe Dilithium
d = Dilithium()

# Gera um par de chaves
pk, sk = d.keygen()

# Define uma mensagem
mensagem = "Unidade curricular de Estruturas Criptográficas!"

# Assina a mensagem com a chave privada
assinatura = d.sign(mensagem)

# Verifica a assinatura com a chave pública
verificacao = d.verify(pk, mensagem, assinatura)

# Imprime o resultado da verificação
if verificacao:
    print("A assinatura é válida.")
else:
    print("A assinatura é inválida.")

print("\nMensagem definida:", mensagem)
print("\nChave pública:", pk)
print("\nChave secreta:", sk)
```

A assinatura é válida.

Mensagem definida: Unidade curricular de Estruturas Criptográficas!

Chave pública: (b'n\x92\x991\x88\x82\x97\x97\xe0r\xc0)\x9d\xe2\xf2"\xff\x98\xd2vt\xe0\xb3\x05|%\x7f\xf8w\xe9L)', [444385*z^255 + 441492*z^254 + 437972*z^253 + 434184*z^252 + 432262*z^251 + 423971*z^250 + 424114*z^249 + 419402*z^248 + 420138*z^247 + 415086*z^246 + 409686*z^245 + 408622*z^244 + 404568*z^243 + 400890*z^242 + 398131*z^241 + 398293*z^240 + 391010*z^239 + 385564*z^238 + 381092*z^237 + 380720*z^236 + 377936*z^235 + 376180*z^234 + 374639*z^233 + 368365*z^232 + 365077*z^231 + 359286*z^230 + 360426*z^229 + 353701*z^228 + 353656*z^227 + 346607*z^226 + 348595*z^225 + 342893*z^224 + 340485*z^223 + 332928*z^222 + 330871*z^221 + 327581*z^220 + 318710*z^219 + 319049*z^218 + 314132*z^217 + 311592*z^216 + 307304*z^215 + 309397*z^214 + 307003*z^213 + 301075*z^212 + 298984*z^211 + 293922*z^210 + 288884*z^209 + 280278*z^208 + 278734*z^207 + 275235*z^206 + 274411*z^205 + 267090*z^204 + 269489*z^203 + 261547*z^202 + 258588*z^201 + 254385*z^200 + 248555*z^199 + 245688*z^198 + 243932*z^197 + 241507*z^196 + 235801*z^195 + 232108*z^194 + 227159*z^193 + 225994*z^192 + 223322*z^191 + 220879*z^190 + 218479*z^189 + 212332*z^188 + 212858*z^187 + 206716*z^186 + 201287*z^185 + 198012*z^184 + 198195*z^183 + 190681*z^182 + 192744*z^181 + 183994*z^180 + 179148*z^179 + 175538*z^178 + 172012*z^177 + 169164*z^176 + 165696*z^175 + 165213*z^174 + 160114*z^173 + 153053*z^172 + 151336*z^171 + 146808*z^170 + 143312*z^169 + 141443*z^168 + 140608*z^167 + 134758*z^166 + 131057*z^165 + 127076*z^164 + 123793*z^163 + 123280*z^162 + 116883*z^161 + 117538*z^160 + 115092*z^159 + 109611*z^158 + 106818*z^157 + 105928*z^156 + 100874*z^155 + 99306*z^154 + 91420*z^153 + 89772*z^152 + 89224*z^151 + 83143*z^150 + 81848*z^149 + 76891*z^148 + 72215*z^147 + 66522*z^146 + 64053*z^145 + 64565*z^144 + 60073*z^143 + 54810*z^142 + 49802*z^141 + 47805*z^140 + 47788*z^139 + 44941*z^138 + 41504*z^137 + 35721*z^136 + 35574*z^135 + 32268*z^134 + 28472*z^133 + 25821*z^132 + 14244*z^131 + 15103*z^130 + 10162*z^129 + 6715*z^128 + 3524*z^127 + 3445*z^126 + 8374884*z^125 + 8373838*z^124 + 8375927*z^123 + 8367996*z^122 + 8366116*z^121 + 8360781*z^120 + 8355525*z^119 + 8352222*z^118 + 8349570*z^117 + 8348014*z^116 + 8345394*z^115 + 8342399*z^114 + 8339848*z^113 + 8337780*z^112 + 8335338*z^111 + 8329966*z^110 + 8327874*z^109 + 8323738*z^108 + 8320694*z^107 + 8314937*z^106 + 8309323*z^105 + 8307541*z^104 + 8306232*z^103 + 8299117*z^102 + 8299748*z^101 + 8293038*z^100 + 8292433*z^99 + 8286953*z^98 + 8284583*z^97 + 8281452*z^96 + 8279189*z^95 + 8270649*z^94 + 8274891*z^93 + 8268304*z^92 + 8263190*z^91 + 8259949*z^90 + 8254410*z^89 + 8254511*z^88 + 8249242*z^87 + 8248257*z^86 + 8242452*z^85 + 8242360*z^84 + 8237216*z^83 + 8233344*z^82 + 8230158*z^81 + 8226384*z^80 + 8225801*z^79 + 8221350*z^78 + 8219279*z^77 + 8214670*z^76 + 8210941*z^75 + 8204871*z^74 + 8201859*z^73 + 8197717*z^72 + 8193627*z^71 + 8192088*z^70 + 8189818*z^69 + 8183788*z^68 + 8179433*z^67 + 8176347*z^66 + 8176023*z^65 + 8166957*z^64 + 8165705*z^63 + 8164738*z^62 + 8161609*z^61 + 8155001*z^60 + 8153666*z^59 + 8149445*z^58 + 8142622*z^57 + 8143265*z^56 + 8138339*z^55 + 8132912*z^54 + 8131240*z^53 + 8128750*z^52 + 8125200*z^51 + 8121493*z^50 + 8114838*z^49 + 8116109*z^48 + 8110910*z^47 + 8106950*z^46 + 8103328*z^45 + 8100377*z^44 + 8096618*z^43 + 8090430*z^42 + 8085036*z^41 + 8082108*z^40 + 8078294*z^39 + 8075693*z^38 + 8071429*z^37 +

8067645*z^36 + 8068056*z^35 + 8062125*z^34 + 8055473*z^33 + 8054264*z^32 + 8047672*z^31 +
8050151*z^30 + 8044118*z^29 + 8041461*z^28 + 8036690*z^27 + 8035081*z^26 + 8030569*z^25 +
8022459*z^24 + 8021729*z^23 + 8017541*z^22 + 8019072*z^21 + 8010782*z^20 + 8005738*z^19 +
8004972*z^18 + 7995246*z^17 + 7991936*z^16 + 7991085*z^15 + 7989667*z^14 + 7985180*z^13 +
7981149*z^12 + 7978648*z^11 + 7976472*z^10 + 7970611*z^9 + 7970678*z^8 + 7964831*z^7 + 79
59975*z^6 + 7955320*z^5 + 7950764*z^4 + 7946044*z^3 + 7943742*z^2 + 7942196*z + 7940372]
[432984*z^255 + 428841*z^254 + 425134*z^253 + 420495*z^252 + 418529*z^251 + 41
4422*z^250 + 409519*z^249 + 410563*z^248 + 408224*z^247 + 403403*z^246 + 404698*z^245 + 3
98804*z^244 + 399398*z^243 + 390063*z^242 + 387777*z^241 + 385496*z^240 + 378969*z^239 +
375310*z^238 + 372089*z^237 + 369393*z^236 + 369662*z^235 + 362649*z^234 + 359286*z^233 +
357961*z^232 + 350618*z^231 + 348087*z^230 + 343287*z^229 + 339152*z^228 + 337016*z^227 +
330866*z^226 + 328548*z^225 + 323989*z^224 + 323110*z^223 + 322703*z^222 + 314419*z^221 +
311570*z^220 + 307557*z^219 + 302978*z^218 + 300267*z^217 + 294897*z^216 + 291656*z^215 +
291695*z^214 + 286843*z^213 + 281235*z^212 + 281695*z^211 + 275322*z^210 + 272477*z^209 +
265217*z^208 + 264328*z^207 + 262596*z^206 + 260007*z^205 + 255254*z^204 + 254718*z^203 +
249321*z^202 + 249315*z^201 + 242147*z^200 + 239701*z^199 + 233826*z^198 + 232470*z^197 +
226811*z^196 + 225496*z^195 + 223493*z^194 + 220259*z^193 + 216237*z^192 + 212804*z^191 +
212692*z^190 + 208957*z^189 + 200492*z^188 + 200422*z^187 + 199266*z^186 + 193226*z^185 +
190896*z^184 + 187417*z^183 + 184734*z^182 + 182358*z^181 + 178054*z^180 + 172411*z^179 +
171845*z^178 + 169932*z^177 + 163554*z^176 + 159242*z^175 + 157682*z^174 + 154418*z^173 +
150809*z^172 + 148347*z^171 + 145541*z^170 + 139573*z^169 + 140398*z^168 + 135822*z^167 +
132482*z^166 + 126326*z^165 + 124135*z^164 + 119120*z^163 + 115991*z^162 + 111470*z^161 +
112618*z^160 + 104619*z^159 + 103749*z^158 + 103916*z^157 + 96947*z^156 + 92692*z^155 + 9
0208*z^154 + 86911*z^153 + 86843*z^152 + 81030*z^151 + 78481*z^150 + 72614*z^149 + 72744
*z^148 + 68448*z^147 + 66982*z^146 + 59854*z^145 + 61545*z^144 + 52753*z^143 + 52771*z^1
42 + 50691*z^141 + 47063*z^140 + 42884*z^139 + 43907*z^138 + 37844*z^137 + 35094*z^136 +
32027*z^135 + 30162*z^134 + 22120*z^133 + 19537*z^132 + 16874*z^131 + 15705*z^130 + 7191
*z^129 + 7102*z^128 + 3876*z^127 + 2645*z^126 + 108*z^125 + 8375977*z^124 + 8374150*z^123
+ 8369574*z^122 + 8363135*z^121 + 8360538*z^120 + 8355594*z^119 + 8356953*z^118 + 8352164
*z^117 + 8350496*z^116 + 8345001*z^115 + 8337848*z^114 + 8337361*z^113 + 8336690*z^112 +
8329184*z^111 + 8329873*z^110 + 8326787*z^109 + 8323643*z^108 + 8320570*z^107 + 8318680*z
^106 + 8313797*z^105 + 8309024*z^104 + 8302666*z^103 + 8304045*z^102 + 8303310*z^101 + 82
97316*z^100 + 8291156*z^99 + 8290198*z^98 + 8283474*z^97 + 8280512*z^96 + 8277165*z^95 +
8273313*z^94 + 8269959*z^93 + 8266168*z^92 + 8261863*z^91 + 8264464*z^90 + 8259546*z^89 +
8257080*z^88 + 8255595*z^87 + 8251911*z^86 + 8249446*z^85 + 8243227*z^84 + 8239060*z^83 +
8239394*z^82 + 8237134*z^81 + 8229786*z^80 + 8227277*z^79 + 8224862*z^78 + 8215158*z^77 +
8212438*z^76 + 8209592*z^75 + 8207163*z^74 + 8202905*z^73 + 8200013*z^72 + 8197000*z^71 +
8194377*z^70 + 8187375*z^69 + 8187329*z^68 + 8185922*z^67 + 8180641*z^66 + 8178153*z^65 +
8174495*z^64 + 8170111*z^63 + 8166571*z^62 + 8160115*z^61 + 8161731*z^60 + 8155766*z^59 +
8151968*z^58 + 8147126*z^57 + 8145711*z^56 + 8138850*z^55 + 8134745*z^54 + 8136922*z^53 +
8133268*z^52 + 8128073*z^51 + 8125419*z^50 + 8122068*z^49 + 8115339*z^48 + 8111565*z^47 +
8108319*z^46 + 8104446*z^45 + 8099459*z^44 + 8097536*z^43 + 8094013*z^42 + 8091098*z^41 +
8090595*z^40 + 8085409*z^39 + 8080818*z^38 + 8083329*z^37 + 8077645*z^36 + 8072252*z^35 +
8071833*z^34 + 8066842*z^33 + 8060439*z^32 + 8058181*z^31 + 8055175*z^30 + 8052183*z^29 +
8047411*z^28 + 8046945*z^27 + 8043645*z^26 + 8035657*z^25 + 8035810*z^24 + 8032042*z^23 +
8031408*z^22 + 8027146*z^21 + 8027343*z^20 + 8022615*z^19 + 8015955*z^18 + 8011918*z^17 +
8008094*z^16 + 8003310*z^15 + 8003724*z^14 + 7998056*z^13 + 7996669*z^12 + 7991656*z^11 +
7986112*z^10 + 7986367*z^9 + 7979237*z^8 + 7978849*z^7 + 7974896*z^6 + 7972318*z^5 + 796
6824*z^4 + 7963324*z^3 + 7959524*z^2 + 7954774*z + 7951097]
[440317*z^255 + 435260*z^254 + 431668*z^253 + 431623*z^252 + 427424*z^251 + 421227*z^250
+ 422372*z^249 + 416167*z^248 + 417118*z^247 + 411241*z^246 + 401574*z^245 + 400416*z^244
+ 398987*z^243 + 395837*z^242 + 392689*z^241 + 388697*z^240 + 384522*z^239 + 381526*z^238
+ 377472*z^237 + 370316*z^236 + 373344*z^235 + 366774*z^234 + 363338*z^233 + 359820*z^232
+ 356443*z^231 + 350676*z^230 + 348893*z^229 + 345384*z^228 + 342253*z^227 + 337858*z^226
+ 337263*z^225 + 331808*z^224 + 328947*z^223 + 325541*z^222 + 317837*z^221 + 318521*z^220
+ 312145*z^219 + 312991*z^218 + 306523*z^217 + 303751*z^216 + 300139*z^215 + 300190*z^214
+ 293729*z^213 + 295048*z^212 + 286379*z^211 + 288268*z^210 + 280984*z^209 + 275261*z^208
+ 274286*z^207 + 272151*z^206 + 263034*z^205 + 265576*z^204 + 256835*z^203 + 254063*z^202
+ 252650*z^201 + 249361*z^200 + 245041*z^199 + 243675*z^198 + 239988*z^197 + 238609*z^196
+ 234051*z^195 + 229579*z^194 + 227310*z^193 + 221327*z^192 + 217388*z^191 + 216122*z^190
+ 209253*z^189 + 210560*z^188 + 203552*z^187 + 202723*z^186 + 199814*z^185 + 194372*z^184
+ 192119*z^183 + 189995*z^182 + 182158*z^181 + 180862*z^180 + 175541*z^179 + 173929*z^178
+ 169315*z^177 + 168410*z^176 + 163975*z^175 + 163077*z^174 + 156185*z^173 + 150700*z^172
+ 153057*z^171 + 147084*z^170 + 141704*z^169 + 140693*z^168 + 137106*z^167 + 133340*z^166
+ 128350*z^165 + 125984*z^164 + 118293*z^163 + 120256*z^162 + 113506*z^161 + 108916*z^160
+ 105320*z^159 + 104170*z^158 + 98806*z^157 + 94901*z^156 + 96764*z^155 + 90989*z^154 + 8
8231*z^153 + 84416*z^152 + 79327*z^151 + 73600*z^150 + 69321*z^149 + 68188*z^148 + 66195
*z^147 + 62150*z^146 + 60195*z^145 + 56755*z^144 + 49749*z^143 + 48515*z^142 + 44477*z^1
41 + 39874*z^140 + 41797*z^139 + 36698*z^138 + 35367*z^137 + 32473*z^136 + 28996*z^135 +
23763*z^134 + 21269*z^133 + 19524*z^132 + 13825*z^131 + 8594*z^130 + 4342*z^129 + 8379853
*z^128 + 8377405*z^127 + 8371986*z^126 + 8368938*z^125 + 8365905*z^124 + 8362561*z^123 +
8358165*z^122 + 8354803*z^121 + 8352195*z^120 + 8347200*z^119 + 8345877*z^118 + 8345496*z

```
^117 + 8346109*z^116 + 8337780*z^115 + 8335706*z^114 + 8334617*z^113 + 8331005*z^112 + 83
27282*z^111 + 8322251*z^110 + 8318392*z^109 + 8315295*z^108 + 8314577*z^107 + 8307344*z^1
06 + 8305931*z^105 + 8303031*z^104 + 8297789*z^103 + 8295269*z^102 + 8292263*z^101 + 8290
517*z^100 + 8284941*z^99 + 8283574*z^98 + 8278198*z^97 + 8274325*z^96 + 8269280*z^95 + 82
66421*z^94 + 8267467*z^93 + 8261484*z^92 + 8258784*z^91 + 8256761*z^90 + 8252586*z^89 + 8
248396*z^88 + 8244093*z^87 + 8240374*z^86 + 8240232*z^85 + 8233980*z^84 + 8233004*z^83 +
8227203*z^82 + 8223768*z^81 + 8219995*z^80 + 8216009*z^79 + 8216635*z^78 + 8210092*z^77 +
8208250*z^76 + 8203568*z^75 + 8200199*z^74 + 8195059*z^73 + 8189508*z^72 + 8185900*z^71 +
8185863*z^70 + 8180292*z^69 + 8175425*z^68 + 8174020*z^67 + 8166626*z^66 + 8169474*z^65 +
8164322*z^64 + 8161170*z^63 + 8156424*z^62 + 8151977*z^61 + 8148739*z^60 + 8148472*z^59 +
8143112*z^58 + 8140009*z^57 + 8137955*z^56 + 8131674*z^55 + 8126639*z^54 + 8128440*z^53 +
8122984*z^52 + 8115213*z^51 + 8114851*z^50 + 8108210*z^49 + 8112530*z^48 + 8105532*z^47 +
8097653*z^46 + 8096687*z^45 + 8095937*z^44 + 8093476*z^43 + 8084528*z^42 + 8083424*z^41 +
8081601*z^40 + 8072773*z^39 + 8070975*z^38 + 8069079*z^37 + 8065841*z^36 + 8060792*z^35 +
8057560*z^34 + 8052113*z^33 + 8047194*z^32 + 8048289*z^31 + 8044062*z^30 + 8035052*z^29 +
8036757*z^28 + 8033870*z^27 + 8028955*z^26 + 8028967*z^25 + 8024879*z^24 + 8024428*z^23 +
8018143*z^22 + 8013725*z^21 + 8010953*z^20 + 8005260*z^19 + 8005103*z^18 + 7998184*z^17 +
7998147*z^16 + 7987717*z^15 + 7988569*z^14 + 7983279*z^13 + 7983303*z^12 + 7979920*z^11 +
7976789*z^10 + 7972141*z^9 + 7969636*z^8 + 7962262*z^7 + 7962240*z^6 + 7960704*z^5 + 795
4422*z^4 + 7952636*z^3 + 7950498*z^2 + 7949334*z + 7942946]
[          445691*z^255 + 443673*z^254 + 435275*z^253 + 434522*z^252 + 431828*z^251 + 43
0985*z^250 + 426251*z^249 + 420281*z^248 + 419515*z^247 + 414770*z^246 + 416456*z^245 + 4
08748*z^244 + 404874*z^243 + 400038*z^242 + 399617*z^241 + 392865*z^240 + 394105*z^239 +
387427*z^238 + 382473*z^237 + 381476*z^236 + 375868*z^235 + 371385*z^234 + 371421*z^233 +
364378*z^232 + 366950*z^231 + 356416*z^230 + 353471*z^229 + 347775*z^228 + 346521*z^227 +
342070*z^226 + 345572*z^225 + 334841*z^224 + 335153*z^223 + 329422*z^222 + 322495*z^221 +
321385*z^220 + 318065*z^219 + 315602*z^218 + 313127*z^217 + 309501*z^216 + 305272*z^215 +
303274*z^214 + 298222*z^213 + 299246*z^212 + 290915*z^211 + 288898*z^210 + 283182*z^209 +
276831*z^208 + 275315*z^207 + 272484*z^206 + 264957*z^205 + 263863*z^204 + 263206*z^203 +
256756*z^202 + 255168*z^201 + 249706*z^200 + 250082*z^199 + 245125*z^198 + 242772*z^197 +
238607*z^196 + 239217*z^195 + 231131*z^194 + 228568*z^193 + 222023*z^192 + 219941*z^191 +
218033*z^190 + 211994*z^189 + 207538*z^188 + 208072*z^187 + 201579*z^186 + 203439*z^185 +
194515*z^184 + 192341*z^183 + 188683*z^182 + 181261*z^181 + 180580*z^180 + 178807*z^179 +
174637*z^178 + 173214*z^177 + 169198*z^176 + 168782*z^175 + 165858*z^174 + 160757*z^173 +
156355*z^172 + 152579*z^171 + 148622*z^170 + 145742*z^169 + 141423*z^168 + 140254*z^167 +
136181*z^166 + 132207*z^165 + 126381*z^164 + 127444*z^163 + 119402*z^162 + 120347*z^161 +
115895*z^160 + 113056*z^159 + 108229*z^158 + 109687*z^157 + 98906*z^156 + 99409*z^155 + 9
4683*z^154 + 92164*z^153 + 89203*z^152 + 85081*z^151 + 81384*z^150 + 75836*z^149 + 74789
*z^148 + 73229*z^147 + 65045*z^146 + 62784*z^145 + 58909*z^144 + 60051*z^143 + 51185*z^1
42 + 48773*z^141 + 43277*z^140 + 39617*z^139 + 37602*z^138 + 34659*z^137 + 32845*z^136 +
27773*z^135 + 25354*z^134 + 20835*z^133 + 17031*z^132 + 14585*z^131 + 9784*z^130 + 7277*
z^129 + 5053*z^128 + 117*z^127 + 32*z^126 + 8373050*z^125 + 8371140*z^124 + 8365387*z^123
+ 8361369*z^122 + 8363503*z^121 + 8354276*z^120 + 8351129*z^119 + 8350961*z^118 + 8349123
*z^117 + 8344461*z^116 + 8340159*z^115 + 8339539*z^114 + 8337663*z^113 + 8333190*z^112 +
8331640*z^111 + 8325691*z^110 + 8322244*z^109 + 8322071*z^108 + 8315803*z^107 + 8313164*z
^106 + 8309013*z^105 + 8302794*z^104 + 8302800*z^103 + 8300011*z^102 + 8295581*z^101 + 82
89238*z^100 + 8288482*z^99 + 8283589*z^98 + 8283465*z^97 + 8276751*z^96 + 8272932*z^95 +
8268313*z^94 + 8265719*z^93 + 8260633*z^92 + 8256526*z^91 + 8256592*z^90 + 8251635*z^89 +
8247215*z^88 + 8243935*z^87 + 8242611*z^86 + 8239861*z^85 + 8234759*z^84 + 8229283*z^83 +
8230631*z^82 + 8223833*z^81 + 8222946*z^80 + 8214641*z^79 + 8216816*z^78 + 8214834*z^77 +
8207725*z^76 + 8200508*z^75 + 8200851*z^74 + 8195983*z^73 + 8196495*z^72 + 8186935*z^71 +
8185317*z^70 + 8179976*z^69 + 8175664*z^68 + 8175471*z^67 + 8169916*z^66 + 8166512*z^65 +
8165811*z^64 + 8159674*z^63 + 8157862*z^62 + 8155417*z^61 + 8149971*z^60 + 8148193*z^59 +
8143658*z^58 + 8142899*z^57 + 8136581*z^56 + 8135671*z^55 + 8128177*z^54 + 8124026*z^53 +
8124254*z^52 + 8118827*z^51 + 8117100*z^50 + 8110557*z^49 + 8114704*z^48 + 8105779*z^47 +
8105806*z^46 + 8102833*z^45 + 8093209*z^44 + 8092885*z^43 + 8085988*z^42 + 8080908*z^41 +
8085305*z^40 + 8075282*z^39 + 8073897*z^38 + 8069570*z^37 + 8062752*z^36 + 8061761*z^35 +
8054931*z^34 + 8052447*z^33 + 8045809*z^32 + 8041895*z^31 + 8043912*z^30 + 8039873*z^29 +
8036993*z^28 + 8032854*z^27 + 8028501*z^26 + 8027281*z^25 + 8023810*z^24 + 8016825*z^23 +
8016878*z^22 + 8016457*z^21 + 8010433*z^20 + 8008755*z^19 + 8002405*z^18 + 7997752*z^17 +
7994471*z^16 + 7989281*z^15 + 7988666*z^14 + 7981776*z^13 + 7979811*z^12 + 7976650*z^11 +
7978466*z^10 + 7972836*z^9 + 7969451*z^8 + 7959805*z^7 + 7960175*z^6 + 7954000*z^5 + 795
1772*z^4 + 7950382*z^3 + 7944531*z^2 + 7940133*z + 7942540]
[    451309*z^255 + 448798*z^254 + 448308*z^253 + 441968*z^252 + 438958*z^251 + 433313*z^
250 + 426485*z^249 + 428401*z^248 + 424120*z^247 + 419812*z^246 + 420814*z^245 + 418024*z
^244 + 415142*z^243 + 409152*z^242 + 408028*z^241 + 406248*z^240 + 400819*z^239 + 397881*
z^238 + 390106*z^237 + 387873*z^236 + 384216*z^235 + 377893*z^234 + 376024*z^233 + 371991
*z^232 + 366814*z^231 + 365843*z^230 + 359248*z^229 + 353830*z^228 + 351684*z^227 + 35000
9*z^226 + 346229*z^225 + 340777*z^224 + 341656*z^223 + 337104*z^222 + 330721*z^221 + 3288
33*z^220 + 329879*z^219 + 320539*z^218 + 319985*z^217 + 319877*z^216 + 312534*z^215 + 308
202*z^214 + 304162*z^213 + 302481*z^212 + 293984*z^211 + 290807*z^210 + 288870*z^209 + 27
9544*z^208 + 276726*z^207 + 274826*z^206 + 266572*z^205 + 265519*z^204 + 260881*z^203 + 2
```

59120*z^202 + 254802*z^201 + 251003*z^200 + 244918*z^199 + 246094*z^198 + 245696*z^197 +
238640*z^196 + 236129*z^195 + 231436*z^194 + 226334*z^193 + 220245*z^192 + 219702*z^191 +
216303*z^190 + 213530*z^189 + 211537*z^188 + 204912*z^187 + 203243*z^186 + 199445*z^185 +
199559*z^184 + 193563*z^183 + 186457*z^182 + 182827*z^181 + 183878*z^180 + 177878*z^179 +
169899*z^178 + 169257*z^177 + 168768*z^176 + 163457*z^175 + 157238*z^174 + 152649*z^173 +
148249*z^172 + 146484*z^171 + 145967*z^170 + 140208*z^169 + 135778*z^168 + 133873*z^167 +
130892*z^166 + 122040*z^165 + 123125*z^164 + 120344*z^163 + 114677*z^162 + 112336*z^161 +
111984*z^160 + 106599*z^159 + 103202*z^158 + 100549*z^157 + 96770*z^156 + 91626*z^155 + 8
9806*z^154 + 86736*z^153 + 87547*z^152 + 79343*z^151 + 77808*z^150 + 72962*z^149 + 71287
*z^148 + 70075*z^147 + 63899*z^146 + 59837*z^145 + 62626*z^144 + 52624*z^143 + 53835*z^1
42 + 50759*z^141 + 47024*z^140 + 40925*z^139 + 38050*z^138 + 32951*z^137 + 32775*z^136 +
29863*z^135 + 27415*z^134 + 22946*z^133 + 16848*z^132 + 13663*z^131 + 12704*z^130 + 4487
*z^129 + 1687*z^128 + 1093*z^127 + 8379130*z^126 + 8374668*z^125 + 8371725*z^124 + 837198
0*z^123 + 8365176*z^122 + 8360846*z^121 + 8357032*z^120 + 8349048*z^119 + 8349998*z^118 +
8347164*z^117 + 8342258*z^116 + 8338606*z^115 + 8337686*z^114 + 8332073*z^113 + 8330228*z
^112 + 8327965*z^111 + 8324208*z^110 + 8322898*z^109 + 8317005*z^108 + 8313693*z^107 + 83
10421*z^106 + 8305776*z^105 + 8306972*z^104 + 8302964*z^103 + 8298198*z^102 + 8291416*z^1
01 + 8291685*z^100 + 8287177*z^99 + 8282834*z^98 + 8277535*z^97 + 8274864*z^96 + 8276015*
z^95 + 8271576*z^94 + 8265338*z^93 + 8263226*z^92 + 8258415*z^91 + 8254169*z^90 + 8251466
*z^89 + 8247093*z^88 + 8241481*z^87 + 8242379*z^86 + 8237496*z^85 + 8233514*z^84 + 822598
7*z^83 + 8227851*z^82 + 8221621*z^81 + 8221967*z^80 + 8217112*z^79 + 8214730*z^78 + 82110
37*z^77 + 8209051*z^76 + 8204499*z^75 + 8201569*z^74 + 8198525*z^73 + 8193143*z^72 + 8185
724*z^71 + 8186419*z^70 + 8177617*z^69 + 8175526*z^68 + 8172481*z^67 + 8170756*z^66 + 816
4550*z^65 + 8163763*z^64 + 8159123*z^63 + 8155823*z^62 + 8148485*z^61 + 8145192*z^60 + 81
41225*z^59 + 8143003*z^58 + 8135611*z^57 + 8136018*z^56 + 8127069*z^55 + 8122170*z^54 + 8
118225*z^53 + 8115476*z^52 + 8111664*z^51 + 8110869*z^50 + 8107059*z^49 + 8104186*z^48 +
8101323*z^47 + 8098146*z^46 + 8093347*z^45 + 8086918*z^44 + 8085485*z^43 + 8082341*z^42 +
8073686*z^41 + 8071762*z^40 + 8067947*z^39 + 8068368*z^38 + 8063958*z^37 + 8065035*z^36 +
8060936*z^35 + 8056898*z^34 + 8052369*z^33 + 8048005*z^32 + 8044989*z^31 + 8044629*z^30 +
8038595*z^29 + 8033750*z^28 + 8031162*z^27 + 8026519*z^26 + 8025171*z^25 + 8022929*z^24 +
8020127*z^23 + 8016773*z^22 + 8011333*z^21 + 8010195*z^20 + 8004610*z^19 + 7999950*z^18 +
7998030*z^17 + 7994926*z^16 + 7991029*z^15 + 7986381*z^14 + 7980058*z^13 + 7979640*z^12 +
7974078*z^11 + 7972176*z^10 + 7967425*z^9 + 7963436*z^8 + 7962020*z^7 + 7955492*z^6 + 795
0338*z^5 + 7948780*z^4 + 7945231*z^3 + 7940035*z^2 + 7938296*z + 7933687]
[440144*z^255 + 436631*z^254 + 437980*z^253 + 433413*z^252 + 424078*z^251 + 430372*z^2
50 + 421653*z^249 + 415998*z^248 + 415999*z^247 + 411238*z^246 + 411329*z^245 + 408289*z^
244 + 401061*z^243 + 402006*z^242 + 400111*z^241 + 396424*z^240 + 392644*z^239 + 384508*z
^238 + 383634*z^237 + 378285*z^236 + 374765*z^235 + 372260*z^234 + 367503*z^233 + 365616*
z^232 + 360287*z^231 + 359320*z^230 + 356525*z^229 + 351232*z^228 + 349766*z^227 + 343615
*z^226 + 337835*z^225 + 334321*z^224 + 336542*z^223 + 330356*z^222 + 324531*z^221 + 32346
1*z^220 + 315877*z^219 + 313219*z^218 + 306893*z^217 + 304335*z^216 + 299847*z^215 + 2968
99*z^214 + 295870*z^213 + 288987*z^212 + 283535*z^211 + 283181*z^210 + 278551*z^209 + 271
956*z^208 + 268968*z^207 + 269802*z^206 + 258828*z^205 + 256442*z^204 + 256126*z^203 + 25
4190*z^202 + 247265*z^201 + 244688*z^200 + 240371*z^199 + 239548*z^198 + 233323*z^197 + 2
30909*z^196 + 225793*z^195 + 222953*z^194 + 219402*z^193 + 217672*z^192 + 210664*z^191 +
208236*z^190 + 206423*z^189 + 204120*z^188 + 201372*z^187 + 199493*z^186 + 191475*z^185 +
188517*z^184 + 187008*z^183 + 181669*z^182 + 175954*z^181 + 174181*z^180 + 169709*z^179 +
167548*z^178 + 165769*z^177 + 158582*z^176 + 155337*z^175 + 156176*z^174 + 148090*z^173 +
147950*z^172 + 142931*z^171 + 140556*z^170 + 133955*z^169 + 131256*z^168 + 127072*z^167 +
123072*z^166 + 119568*z^165 + 117662*z^164 + 113212*z^163 + 111799*z^162 + 108273*z^161 +
105988*z^160 + 102751*z^159 + 101105*z^158 + 97426*z^157 + 95806*z^156 + 92473*z^155 + 89
138*z^154 + 85476*z^153 + 84436*z^152 + 80542*z^151 + 76063*z^150 + 73397*z^149 + 73915*z
^148 + 68153*z^147 + 67076*z^146 + 61647*z^145 + 56686*z^144 + 52667*z^143 + 51973*z^142
+ 46473*z^141 + 39799*z^140 + 42860*z^139 + 41075*z^138 + 35309*z^137 + 32421*z^136 + 33
708*z^135 + 24921*z^134 + 23452*z^133 + 20194*z^132 + 13465*z^131 + 11214*z^130 + 5788*z^
129 + 8380171*z^128 + 844*z^127 + 8377057*z^126 + 8374615*z^125 + 8369885*z^124 + 8368263
*z^123 + 8366661*z^122 + 8360322*z^121 + 8362482*z^120 + 8358581*z^119 + 8356333*z^118 +
8350721*z^117 + 8349212*z^116 + 8344492*z^115 + 8338971*z^114 + 8337132*z^113 + 8334818*z
^112 + 8329591*z^111 + 8332763*z^110 + 8329544*z^109 + 8317891*z^108 + 8319265*z^107 + 83
13867*z^106 + 8308735*z^105 + 8306561*z^104 + 8302980*z^103 + 8298364*z^102 + 8294025*z^1
01 + 8291156*z^100 + 8287366*z^99 + 8285261*z^98 + 8281499*z^97 + 8276464*z^96 + 8271720*
z^95 + 8272121*z^94 + 8265817*z^93 + 8263764*z^92 + 8259463*z^91 + 8257179*z^90 + 8255988
*z^89 + 8250966*z^88 + 8246212*z^87 + 8244144*z^86 + 8239014*z^85 + 8235382*z^84 + 823127
6*z^83 + 8227178*z^82 + 8223759*z^81 + 8221240*z^80 + 8217863*z^79 + 8212277*z^78 + 82122
34*z^77 + 8208852*z^76 + 8200725*z^75 + 8197951*z^74 + 8192779*z^73 + 8191003*z^72 + 8187
739*z^71 + 8182364*z^70 + 8181333*z^69 + 8178070*z^68 + 8173723*z^67 + 8168666*z^66 + 816
8920*z^65 + 8164368*z^64 + 8159061*z^63 + 8154912*z^62 + 8153463*z^61 + 8151163*z^60 + 81
46976*z^59 + 8144012*z^58 + 8139838*z^57 + 8137575*z^56 + 8131121*z^55 + 8128323*z^54 + 8
127138*z^53 + 8122225*z^52 + 8120024*z^51 + 8116739*z^50 + 8112550*z^49 + 8108380*z^48 +
8106495*z^47 + 8104438*z^46 + 8096888*z^45 + 8094129*z^44 + 8087381*z^43 + 8086015*z^42 +
8084262*z^41 + 8079894*z^40 + 8078716*z^39 + 8074259*z^38 + 8068693*z^37 + 8068501*z^36 +
8061085*z^35 + 8060888*z^34 + 8057715*z^33 + 8053462*z^32 + 8048827*z^31 + 8046078*z^30 +

8044401*z^29 + 8037868*z^28 + 8033038*z^27 + 8031840*z^26 + 8031325*z^25 + 8026909*z^24 +
8023449*z^23 + 8022120*z^22 + 8014269*z^21 + 8009223*z^20 + 8007178*z^19 + 8000079*z^18 +
8004380*z^17 + 7996494*z^16 + 7992693*z^15 + 7988400*z^14 + 7983743*z^13 + 7981819*z^12 +
7975734*z^11 + 7975592*z^10 + 7970108*z^9 + 7967760*z^8 + 7964723*z^7 + 7958543*z^6 + 795
7095*z^5 + 7955248*z^4 + 7948811*z^3 + 7947345*z^2 + 7944377*z + 7943179]
[441492*z^255 + 436448*z^254 + 435784*z^253 + 430981*z^252 + 428399*z^251 + 423938*z^25
0 + 423547*z^249 + 417609*z^248 + 417987*z^247 + 415221*z^246 + 405198*z^245 + 401315*z^2
44 + 400382*z^243 + 398040*z^242 + 396965*z^241 + 388198*z^240 + 388604*z^239 + 383740*z^
238 + 382050*z^237 + 379732*z^236 + 373964*z^235 + 369118*z^234 + 367012*z^233 + 361653*z
^232 + 363032*z^231 + 359818*z^230 + 355442*z^229 + 348862*z^228 + 349061*z^227 + 345178*
z^226 + 339942*z^225 + 339102*z^224 + 334832*z^223 + 333439*z^222 + 323003*z^221 + 322713
*z^220 + 317363*z^219 + 316695*z^218 + 311822*z^217 + 309768*z^216 + 300770*z^215 + 30329
2*z^214 + 298484*z^213 + 293550*z^212 + 291080*z^211 + 286673*z^210 + 285504*z^209 + 2787
35*z^208 + 275054*z^207 + 273564*z^206 + 270514*z^205 + 265817*z^204 + 259425*z^203 + 259
552*z^202 + 255992*z^201 + 249115*z^200 + 245425*z^199 + 245855*z^198 + 242137*z^197 + 23
5867*z^196 + 234229*z^195 + 228862*z^194 + 232186*z^193 + 223811*z^192 + 223634*z^191 + 2
16032*z^190 + 213379*z^189 + 210534*z^188 + 206814*z^187 + 202919*z^186 + 200905*z^185 +
194976*z^184 + 189883*z^183 + 186118*z^182 + 185425*z^181 + 182639*z^180 + 176349*z^179 +
173395*z^178 + 168136*z^177 + 164931*z^176 + 164796*z^175 + 157855*z^174 + 151540*z^173 +
150471*z^172 + 148143*z^171 + 145326*z^170 + 139496*z^169 + 140219*z^168 + 135823*z^167 +
132614*z^166 + 126717*z^165 + 129621*z^164 + 121578*z^163 + 120622*z^162 + 117192*z^161 +
116258*z^160 + 112437*z^159 + 104504*z^158 + 103478*z^157 + 97002*z^156 + 95774*z^155 + 9
3126*z^154 + 90988*z^153 + 90414*z^152 + 85523*z^151 + 81133*z^150 + 77278*z^149 + 74693
*z^148 + 75690*z^147 + 71085*z^146 + 63733*z^145 + 62956*z^144 + 60806*z^143 + 55786*z^1
42 + 50641*z^141 + 47833*z^140 + 43149*z^139 + 40188*z^138 + 35437*z^137 + 35018*z^136 +
28487*z^135 + 23955*z^134 + 21185*z^133 + 20438*z^132 + 12291*z^131 + 8474*z^130 + 6680*
z^129 + 7815*z^128 + 8379393*z^127 + 8380267*z^126 + 8373696*z^125 + 8372807*z^124 + 8368
531*z^123 + 8365309*z^122 + 8360405*z^121 + 8356933*z^120 + 8353962*z^119 + 8345802*z^118
+ 8347430*z^117 + 8345972*z^116 + 8339920*z^115 + 8337504*z^114 + 8336778*z^113 + 8329134
*z^112 + 8324775*z^111 + 8326482*z^110 + 8321546*z^109 + 8318597*z^108 + 8315233*z^107 +
8313173*z^106 + 8309124*z^105 + 8307096*z^104 + 8300872*z^103 + 8295721*z^102 + 8292361*z
^101 + 8290682*z^100 + 8285040*z^99 + 8281568*z^98 + 8279201*z^97 + 8277646*z^96 + 827308
4*z^95 + 8270007*z^94 + 8265032*z^93 + 8263636*z^92 + 8259209*z^91 + 8258800*z^90 + 82502
44*z^89 + 8250504*z^88 + 8247379*z^87 + 8244517*z^86 + 8237673*z^85 + 8236722*z^84 + 8231
667*z^83 + 8233096*z^82 + 8225380*z^81 + 8224679*z^80 + 8218693*z^79 + 8219209*z^78 + 821
4654*z^77 + 8210068*z^76 + 8207993*z^75 + 8203043*z^74 + 8199320*z^73 + 8196058*z^72 + 81
91294*z^71 + 8186488*z^70 + 8183650*z^69 + 8184050*z^68 + 8175970*z^67 + 8173483*z^66 + 8
168037*z^65 + 8163338*z^64 + 8158220*z^63 + 8159786*z^62 + 8154834*z^61 + 8152360*z^60 +
8145727*z^59 + 8141397*z^58 + 8141435*z^57 + 8138933*z^56 + 8134604*z^55 + 8129344*z^54 +
8121630*z^53 + 8121681*z^52 + 8116941*z^51 + 8115141*z^50 + 8111848*z^49 + 8109125*z^48 +
8103613*z^47 + 8100771*z^46 + 8099852*z^45 + 8096063*z^44 + 8092843*z^43 + 8085607*z^42 +
8080808*z^41 + 8080171*z^40 + 8073615*z^39 + 8072121*z^38 + 8068675*z^37 + 8060994*z^36 +
8059843*z^35 + 8052833*z^34 + 8053459*z^33 + 8049263*z^32 + 8045117*z^31 + 8044152*z^30 +
8040688*z^29 + 8034106*z^28 + 8036184*z^27 + 8026490*z^26 + 8023182*z^25 + 8022994*z^24 +
8020842*z^23 + 8015458*z^22 + 8012738*z^21 + 8011070*z^20 + 8007436*z^19 + 8002835*z^18 +
7998684*z^17 + 7997287*z^16 + 7990169*z^15 + 7991955*z^14 + 7981896*z^13 + 7980778*z^12 +
7975733*z^11 + 7973688*z^10 + 7973004*z^9 + 7968248*z^8 + 7964173*z^7 + 7963984*z^6 + 795
6001*z^5 + 7951759*z^4 + 7953468*z^3 + 7947540*z^2 + 7944401*z + 7941567]
[440839*z^255 + 440269*z^254 + 435192*z^253 + 431972*z^252 + 429438*z^251 + 426791*z^2
50 + 422655*z^249 + 420197*z^248 + 413898*z^247 + 412391*z^246 + 408271*z^245 + 406775*z^
244 + 402533*z^243 + 399577*z^242 + 397799*z^241 + 393417*z^240 + 391689*z^239 + 387895*z
^238 + 384046*z^237 + 380181*z^236 + 376912*z^235 + 372872*z^234 + 370072*z^233 + 363264*
z^232 + 360008*z^231 + 357920*z^230 + 353336*z^229 + 351104*z^228 + 344481*z^227 + 343427
*z^226 + 339076*z^225 + 337869*z^224 + 334806*z^223 + 329364*z^222 + 323948*z^221 + 32012
1*z^220 + 316700*z^219 + 313519*z^218 + 308471*z^217 + 306620*z^216 + 302305*z^215 + 2986
67*z^214 + 293655*z^213 + 293228*z^212 + 289014*z^211 + 283065*z^210 + 279013*z^209 + 276
875*z^208 + 270679*z^207 + 271311*z^206 + 269648*z^205 + 261874*z^204 + 258601*z^203 + 25
7582*z^202 + 253726*z^201 + 248532*z^200 + 245159*z^199 + 242631*z^198 + 236197*z^197 + 2
34050*z^196 + 230417*z^195 + 225189*z^194 + 224112*z^193 + 221187*z^192 + 215104*z^191 +
214196*z^190 + 212228*z^189 + 205813*z^188 + 200612*z^187 + 203133*z^186 + 193208*z^185 +
191688*z^184 + 188120*z^183 + 188564*z^182 + 179977*z^181 + 182438*z^180 + 173097*z^179 +
174505*z^178 + 170040*z^177 + 168118*z^176 + 162276*z^175 + 162926*z^174 + 160042*z^173 +
155849*z^172 + 153250*z^171 + 147034*z^170 + 142794*z^169 + 140161*z^168 + 140273*z^167 +
135688*z^166 + 133051*z^165 + 129891*z^164 + 125978*z^163 + 122168*z^162 + 121297*z^161 +
119642*z^160 + 115498*z^159 + 110159*z^158 + 110525*z^157 + 103395*z^156 + 102140*z^155 +
97918*z^154 + 97185*z^153 + 95820*z^152 + 89387*z^151 + 85424*z^150 + 81942*z^149 + 7685
2*z^148 + 73536*z^147 + 70353*z^146 + 68270*z^145 + 63285*z^144 + 62405*z^143 + 58217*z^
142 + 50223*z^141 + 52357*z^140 + 45258*z^139 + 38235*z^138 + 38633*z^137 + 34698*z^136
+ 30719*z^135 + 31703*z^134 + 24657*z^133 + 18686*z^132 + 13759*z^131 + 12045*z^130 + 95
97*z^129 + 5341*z^128 + 899*z^127 + 8377816*z^126 + 8375701*z^125 + 8373562*z^124 + 83655
49*z^123 + 8364355*z^122 + 8361401*z^121 + 8357494*z^120 + 8353602*z^119 + 8350782*z^118
+ 8345257*z^117 + 8345700*z^116 + 8344932*z^115 + 8338617*z^114 + 8336044*z^113 + 8330190

*z^112 + 8326995*z^111 + 8326422*z^110 + 8321853*z^109 + 8319024*z^108 + 8317270*z^107 + 8312369*z^106 + 8309733*z^105 + 8309804*z^104 + 8306066*z^103 + 8301006*z^102 + 8296851*z^101 + 8296684*z^100 + 8290101*z^99 + 8289187*z^98 + 8283314*z^97 + 8279013*z^96 + 8273133*z^95 + 8271514*z^94 + 8265499*z^93 + 8264513*z^92 + 8254414*z^91 + 8255183*z^90 + 8248559*z^89 + 8250330*z^88 + 8242625*z^87 + 8238084*z^86 + 8235177*z^85 + 8235610*z^84 + 8230602*z^83 + 8228605*z^82 + 8223352*z^81 + 8222159*z^80 + 8215856*z^79 + 8218762*z^78 + 8209744*z^77 + 8207975*z^76 + 8202120*z^75 + 8197668*z^74 + 8193237*z^73 + 8191153*z^72 + 8184687*z^71 + 8181579*z^70 + 8180626*z^69 + 8177235*z^68 + 8173358*z^67 + 8176952*z^66 + 8168777*z^65 + 8166870*z^64 + 8162013*z^63 + 8156906*z^62 + 8154678*z^61 + 8152579*z^60 + 8148401*z^59 + 8141474*z^58 + 8140393*z^57 + 8134214*z^56 + 8132200*z^55 + 8128008*z^54 + 8125388*z^53 + 8126081*z^52 + 8119326*z^51 + 8115821*z^50 + 8110128*z^49 + 8107668*z^48 + 8106054*z^47 + 8101960*z^46 + 8103885*z^45 + 8095108*z^44 + 8090226*z^43 + 8086357*z^42 + 8082318*z^41 + 8081952*z^40 + 8080608*z^39 + 8077882*z^38 + 8070677*z^37 + 8067774*z^36 + 8063354*z^35 + 8062607*z^34 + 8063989*z^33 + 8054551*z^32 + 8053893*z^31 + 8046001*z^30 + 8044583*z^29 + 8042558*z^28 + 8036828*z^27 + 8037906*z^26 + 8028589*z^25 + 8025971*z^24 + 8021454*z^23 + 8020419*z^22 + 8014221*z^21 + 8014795*z^20 + 8009938*z^19 + 8005145*z^18 + 8000315*z^17 + 7997500*z^16 + 7997268*z^15 + 7994667*z^14 + 7992659*z^13 + 7988086*z^12 + 7981540*z^11 + 7981806*z^10 + 7976856*z^9 + 7974321*z^8 + 7966962*z^7 + 7960561*z^6 + 7956819*z^5 + 7957545*z^4 + 7954358*z^3 + 7950656*z^2 + 7944167*z + 7945718]
[452835*z^255 + 443641*z^254 + 443097*z^253 + 438528*z^252 + 434904*z^251 + 430055*z^250 + 425961*z^249 + 426378*z^248 + 424040*z^247 + 414675*z^246 + 412802*z^245 + 408492*z^244 + 405153*z^243 + 404059*z^242 + 400645*z^241 + 392714*z^240 + 389620*z^239 + 388405*z^238 + 382552*z^237 + 379829*z^236 + 373215*z^235 + 374869*z^234 + 367348*z^233 + 364666*z^232 + 362528*z^231 + 356074*z^230 + 357209*z^229 + 352489*z^228 + 350317*z^227 + 345327*z^226 + 339386*z^225 + 336690*z^224 + 332611*z^223 + 330718*z^222 + 327866*z^221 + 324138*z^220 + 322120*z^219 + 314501*z^218 + 313723*z^217 + 311229*z^216 + 310345*z^215 + 303228*z^214 + 300190*z^213 + 298984*z^212 + 287823*z^211 + 286314*z^210 + 282192*z^209 + 277986*z^208 + 277263*z^207 + 271213*z^206 + 267542*z^205 + 266860*z^204 + 261764*z^203 + 262906*z^202 + 258264*z^201 + 253571*z^200 + 250876*z^199 + 249764*z^198 + 241124*z^197 + 239638*z^196 + 235154*z^195 + 234293*z^194 + 227548*z^193 + 223663*z^192 + 221023*z^191 + 220429*z^190 + 212423*z^189 + 211595*z^188 + 208960*z^187 + 201962*z^186 + 197706*z^185 + 192511*z^184 + 190303*z^183 + 187149*z^182 + 184468*z^181 + 180937*z^180 + 177231*z^179 + 172442*z^178 + 167778*z^177 + 166587*z^176 + 160411*z^175 + 160778*z^174 + 158635*z^173 + 152018*z^172 + 148072*z^171 + 145960*z^170 + 142317*z^169 + 135387*z^168 + 136836*z^167 + 131570*z^166 + 128871*z^165 + 124590*z^164 + 119378*z^163 + 120148*z^162 + 115166*z^161 + 109174*z^160 + 107407*z^159 + 104347*z^158 + 101757*z^157 + 98238*z^156 + 87828*z^155 + 86670*z^154 + 83431*z^153 + 80859*z^152 + 76785*z^151 + 75946*z^150 + 71089*z^149 + 71633*z^148 + 65031*z^147 + 62783*z^146 + 57439*z^145 + 58269*z^144 + 52132*z^143 + 48884*z^142 + 40823*z^141 + 40444*z^140 + 38511*z^139 + 35807*z^138 + 29484*z^137 + 28638*z^136 + 21759*z^135 + 17738*z^134 + 17680*z^133 + 14761*z^132 + 10052*z^131 + 6981*z^130 + 2210*z^129 + 148*z^128 + 8377812*z^127 + 8370652*z^126 + 8371332*z^125 + 8364990*z^124 + 8357633*z^123 + 8355207*z^122 + 8353161*z^121 + 8349912*z^120 + 8350425*z^119 + 8346412*z^118 + 8346330*z^117 + 8339398*z^116 + 8335668*z^115 + 8333682*z^114 + 8325567*z^113 + 8324518*z^112 + 8321387*z^111 + 8320890*z^110 + 8316274*z^109 + 8312196*z^108 + 8309818*z^107 + 8306724*z^106 + 8305644*z^105 + 8302070*z^104 + 8296495*z^103 + 8296672*z^102 + 8289842*z^101 + 8282725*z^100 + 8283277*z^99 + 8276495*z^98 + 8276057*z^97 + 8272224*z^96 + 8265722*z^95 + 8265042*z^94 + 8261755*z^93 + 8256393*z^92 + 8254537*z^91 + 8250039*z^90 + 8249829*z^89 + 8249508*z^88 + 8239233*z^87 + 8239272*z^86 + 8234936*z^85 + 8227344*z^84 + 8224809*z^83 + 8222356*z^82 + 8220730*z^81 + 8215256*z^80 + 8213359*z^79 + 8211069*z^78 + 8207137*z^77 + 8204639*z^76 + 8199571*z^75 + 8196080*z^74 + 8189272*z^73 + 8188925*z^72 + 8183651*z^71 + 8181462*z^70 + 8176485*z^69 + 8167845*z^68 + 8169582*z^67 + 8161992*z^66 + 8160640*z^65 + 8155574*z^64 + 8150086*z^63 + 8150411*z^62 + 8144301*z^61 + 8138535*z^60 + 8135083*z^59 + 8129397*z^58 + 8126056*z^57 + 8124101*z^56 + 8121850*z^55 + 8113521*z^54 + 8113713*z^53 + 8108593*z^52 + 8107015*z^51 + 8100796*z^50 + 8101184*z^49 + 8096003*z^48 + 8089567*z^47 + 8086525*z^46 + 8086842*z^45 + 8079699*z^44 + 8079034*z^43 + 8075900*z^42 + 8071613*z^41 + 8065953*z^40 + 8065039*z^39 + 8060859*z^38 + 8055426*z^37 + 8057071*z^36 + 8050148*z^35 + 8047947*z^34 + 8042959*z^33 + 8042459*z^32 + 8039036*z^31 + 8034181*z^30 + 8030505*z^29 + 8023085*z^28 + 8019953*z^27 + 8017745*z^26 + 8018765*z^25 + 8013308*z^24 + 8007719*z^23 + 8009180*z^22 + 8002603*z^21 + 7999387*z^20 + 7995547*z^19 + 7992188*z^18 + 7991025*z^17 + 7987114*z^16 + 7982579*z^15 + 7974264*z^14 + 7971998*z^13 + 7970093*z^12 + 7970887*z^11 + 7965789*z^10 + 7965840*z^9 + 7959479*z^8 + 7955511*z^7 + 7951775*z^6 + 7951361*z^5 + 7947696*z^4 + 7942820*z^3 + 7941298*z^2 + 7936781*z + 7936540]
[443425*z^255 + 439080*z^254 + 437383*z^253 + 432820*z^252 + 427885*z^251 + 425187*z^250 + 422073*z^249 + 417529*z^248 + 419867*z^247 + 415733*z^246 + 411113*z^245 + 408780*z^244 + 404252*z^243 + 403903*z^242 + 399849*z^241 + 396462*z^240 + 391892*z^239 + 387323*z^238 + 383274*z^237 + 374320*z^236 + 375224*z^235 + 372716*z^234 + 369333*z^233 + 362747*z^232 + 365390*z^231 + 362607*z^230 + 356975*z^229 + 353385*z^228 + 349204*z^227 + 344945*z^226 + 340979*z^225 + 336623*z^224 + 333511*z^223 + 331316*z^222 + 324384*z^221 + 327899*z^220 + 322512*z^219 + 319967*z^218 + 315604*z^217 + 312705*z^216 + 307630*z^215 + 308232*z^214 + 300112*z^213 + 299237*z^212 + 292742*z^211 + 290604*z^210 + 287764*z^209 + 282611*z^208 + 280412*z^207 + 279502*z^206 + 275921*z^205 + 272717*z^204 + 268790*z^203 + 265534*z^202 + 261073*z^201 + 258779*z^200 + 256691*z^199 + 250863*z^198 + 249317*z^197 +

241078*z^196 + 240901*z^195 + 234251*z^194 + 233468*z^193 + 228618*z^192 + 227140*z^191 +
225472*z^190 + 215077*z^189 + 212787*z^188 + 208328*z^187 + 209647*z^186 + 201795*z^185 +
201495*z^184 + 196174*z^183 + 194665*z^182 + 192772*z^181 + 186200*z^180 + 183214*z^179 +
176812*z^178 + 175345*z^177 + 167790*z^176 + 165146*z^175 + 164779*z^174 + 157027*z^173 +
156902*z^172 + 153107*z^171 + 146622*z^170 + 143730*z^169 + 136712*z^168 + 135755*z^167 +
130702*z^166 + 129339*z^165 + 120031*z^164 + 121522*z^163 + 117619*z^162 + 112017*z^161 +
115812*z^160 + 110581*z^159 + 109127*z^158 + 106783*z^157 + 103451*z^156 + 97423*z^155 +
98921*z^154 + 95288*z^153 + 88563*z^152 + 84996*z^151 + 81085*z^150 + 80135*z^149 + 7609
2*z^148 + 73549*z^147 + 73649*z^146 + 68306*z^145 + 64400*z^144 + 59351*z^143 + 55529*z^
142 + 55237*z^141 + 51558*z^140 + 44084*z^139 + 43877*z^138 + 37566*z^137 + 33525*z^136
+ 36130*z^135 + 33214*z^134 + 27492*z^133 + 22383*z^132 + 19294*z^131 + 14367*z^130 + 12
989*z^129 + 12129*z^128 + 9413*z^127 + 4169*z^126 + 8380122*z^125 + 8379846*z^124 + 83750
81*z^123 + 8371296*z^122 + 8366843*z^121 + 8364633*z^120 + 8360690*z^119 + 8359706*z^118
+ 8353934*z^117 + 8350514*z^116 + 8347547*z^115 + 8344192*z^114 + 8344090*z^113 + 8336778
*z^112 + 8338079*z^111 + 8332163*z^110 + 8332103*z^109 + 8326231*z^108 + 8325329*z^107 +
8321521*z^106 + 8318709*z^105 + 8314146*z^104 + 8314521*z^103 + 8314055*z^102 + 8308954*z
^101 + 8304828*z^100 + 8298831*z^99 + 8300265*z^98 + 8294989*z^97 + 8286773*z^96 + 828626
3*z^95 + 8280775*z^94 + 8278206*z^93 + 8275522*z^92 + 8269390*z^91 + 8268160*z^90 + 82643
92*z^89 + 8260867*z^88 + 8260765*z^87 + 8254681*z^86 + 8247726*z^85 + 8248225*z^84 + 8243
081*z^83 + 8239728*z^82 + 8239556*z^81 + 8236553*z^80 + 8232215*z^79 + 8228614*z^78 + 822
4225*z^77 + 8219008*z^76 + 8217884*z^75 + 8213459*z^74 + 8210606*z^73 + 8207742*z^72 + 82
01263*z^71 + 8199276*z^70 + 8194478*z^69 + 8191801*z^68 + 8189895*z^67 + 8183194*z^66 + 8
182350*z^65 + 8178392*z^64 + 8173573*z^63 + 8167844*z^62 + 8166859*z^61 + 8161870*z^60 +
8159547*z^59 + 8154007*z^58 + 8150942*z^57 + 8148206*z^56 + 8139442*z^55 + 8139236*z^54 +
8135221*z^53 + 8131062*z^52 + 8128028*z^51 + 8124251*z^50 + 8119826*z^49 + 8114236*z^48 +
8110365*z^47 + 8111059*z^46 + 8107359*z^45 + 8099996*z^44 + 8097473*z^43 + 8090907*z^42 +
8091026*z^41 + 8084094*z^40 + 8084225*z^39 + 8079400*z^38 + 8076241*z^37 + 8074133*z^36 +
8071595*z^35 + 8064505*z^34 + 8064129*z^33 + 8058247*z^32 + 8053518*z^31 + 8049668*z^30 +
8046100*z^29 + 8041141*z^28 + 8040592*z^27 + 8040898*z^26 + 8036911*z^25 + 8030233*z^24 +
8029596*z^23 + 8018249*z^22 + 8020996*z^21 + 8016625*z^20 + 8013456*z^19 + 8007295*z^18 +
8007218*z^17 + 8002251*z^16 + 7997648*z^15 + 7994573*z^14 + 7989040*z^13 + 7987167*z^12 +
7980401*z^11 + 7976940*z^10 + 7971174*z^9 + 7972409*z^8 + 7968552*z^7 + 7963315*z^6 + 796
3075*z^5 + 7957640*z^4 + 7954688*z^3 + 7950944*z^2 + 7946983*z + 7939400])

Chave secreta: ([z^255 + z^254 + 2*z^253 + z^252
+ 2*z^251 + 2*z^250 + 2*z^249 + z^248 + 2*z^247 + 2*z^246 + z^245 + z^244 + 2*z^243 + z^2
42 + 2*z^241 + z^240 + 2*z^239 + z^238 + z^237 + 2*z^236 + z^235 + z^234 + 2*z^233 + z^23
2 + z^231 + 2*z^230 + z^229 + z^228 + z^227 + z^226 + 2*z^225 + 2*z^224 + 2*z^223 + 2*z^2
22 + 2*z^221 + z^220 + 2*z^219 + 2*z^218 + 2*z^217 + z^216 + 2*z^215 + 2*z^214 + 2*z^213
+ 2*z^212 + 2*z^211 + z^210 + 2*z^209 + 2*z^208 + z^207 + z^206 + z^205 + z^204 + z^203 +
2*z^202 + z^201 + z^200 + 2*z^199 + z^198 + z^197 + 2*z^196 + z^195 + z^194 + 2*z^193 +
z^192 + z^191 + 2*z^190 + z^189 + z^188 + 2*z^187 + z^186 + z^185 + 2*z^184 + z^183 + 2*z
^182 + z^181 + z^180 + z^179 + 2*z^178 + 2*z^177 + 2*z^176 + z^175 + z^174 + z^173 + z^17
2 + 2*z^171 + 2*z^170 + z^169 + 2*z^168 + z^167 + 2*z^166 + 2*z^165 + z^164 + z^163 + z^1
62 + 2*z^161 + z^160 + 2*z^159 + 2*z^158 + 2*z^157 + z^156 + z^155 + z^154 + z^153 + 2*z^
152 + z^151 + z^150 + z^149 + 2*z^148 + z^147 + z^146 + z^145 + 2*z^144 + z^143 + 2*z^142
+ z^141 + z^140 + z^139 + z^138 + 2*z^137 + 2*z^136 + z^135 + z^134 + 2*z^133 + 2*z^132 +
2*z^131 + 2*z^130 + z^129 + 2*z^128 + z^127 + 2*z^126 + 2*z^125 + z^124 + z^123 + z^122 +
z^121 + 2*z^120 + z^119 + z^118 + z^117 + 2*z^116 + 2*z^115 + z^114 + z^113 + 2*z^112 + z
^111 + 2*z^110 + z^109 + 2*z^108 + z^107 + z^106 + 2*z^105 + z^104 + 2*z^103 + 2*z^102 +
2*z^101 + z^100 + 2*z^99 + 2*z^98 + z^97 + z^96 + z^95 + z^94 + 2*z^93 + z^92 + 2*z^91 +
z^90 + 2*z^89 + z^88 + 2*z^87 + z^86 + 2*z^85 + 2*z^84 + z^83 + z^82 + 2*z^81 + z^80 + z
^79 + z^78 + 2*z^77 + 2*z^76 + z^75 + z^74 + 2*z^73 + z^72 + z^71 + 2*z^70 + z^69 + 2*z^
68 + z^67 + z^66 + 2*z^65 + 2*z^64 + 2*z^63 + 2*z^62 + z^61 + 2*z^60 + 2*z^59 + 2*z^58 +
2*z^57 + z^56 + 2*z^55 + 2*z^54 + z^53 + 2*z^52 + 2*z^51 + 2*z^50 + z^49 + 2*z^48 + z^47
+ z^46 + 2*z^45 + 2*z^44 + 2*z^43 + z^42 + z^41 + 2*z^40 + z^39 + 2*z^38 + 2*z^37 + 2*z^
36 + 2*z^35 + 2*z^34 + 2*z^33 + z^32 + z^31 + 2*z^30 + 2*z^29 + z^28 + z^27 + 2*z^26 + 2
*z^25 + 2*z^24 + 2*z^23 + z^22 + 2*z^21 + 2*z^20 + 2*z^19 + 2*z^18 + z^17 + z^16 + z^15
+ z^14 + z^13 + 2*z^12 + z^11 + 2*z^10 + 2*z^9 + z^8 + 2*z^7 + 2*z^6 + 2*z^5 + z^4 + 2*z
^3 + z^2 + z + 1]
[z^255 + z^254 + z^253 + z^252 + 2*z^251 + 2*z^250 + z^249 +
z^248 + z^247 + z^246 + 2*z^245 + 2*z^244 + z^243 + 2*z^242 + 2*z^241 + z^240 + 2*z^239 +
2*z^238 + 2*z^237 + 2*z^236 + z^235 + z^234 + 2*z^233 + 2*z^232 + 2*z^231 + 2*z^230 + 2*z
^229 + z^228 + 2*z^227 + z^226 + 2*z^225 + z^224 + 2*z^223 + 2*z^222 + 2*z^221 + 2*z^220
+ 2*z^219 + 2*z^218 + z^217 + z^216 + z^215 + z^214 + z^213 + z^212 + z^211 + 2*z^210 +
2*z^209 + z^208 + z^207 + 2*z^206 + 2*z^205 + 2*z^204 + z^203 + z^202 + z^201 + 2*z^200 +
z^199 + z^198 + 2*z^197 + 2*z^196 + z^195 + 2*z^194 + z^193 + 2*z^192 + z^191 + z^190 + 2
*z^189 + 2*z^188 + 2*z^187 + 2*z^186 + 2*z^185 + z^184 + z^183 + 2*z^182 + z^181 + 2*z^18
0 + z^179 + 2*z^178 + z^177 + z^176 + 2*z^175 + 2*z^174 + 2*z^173 + 2*z^172 + 2*z^171 + z
^170 + z^169 + 2*z^168 + 2*z^167 + z^166 + 2*z^165 + 2*z^164 + z^163 + 2*z^162 + z^161 +
z^160 + z^159 + 2*z^158 + 2*z^157 + 2*z^156 + z^155 + 2*z^154 + z^153 + 2*z^152 + 2*z^151
+ 2*z^150 + 2*z^149 + z^148 + z^147 + z^146 + z^145 + 2*z^144 + 2*z^143 + z^142 + z^141 +

2*z^140 + z^139 + 2*z^138 + z^137 + z^136 + z^135 + z^134 + z^133 + 2*z^132 + 2*z^131 +
2*z^130 + z^129 + z^128 + 2*z^127 + 2*z^126 + z^125 + 2*z^124 + z^123 + z^122 + z^121 +
2*z^120 + 2*z^119 + 2*z^118 + z^117 + 2*z^116 + z^115 + z^114 + 2*z^113 + z^112 + z^111 +
z^110 + z^109 + z^108 + z^107 + z^106 + z^105 + z^104 + z^103 + z^102 + 2*z^101 + z^100
+ 2*z^99 + 2*z^98 + 2*z^97 + z^96 + 2*z^95 + 2*z^94 + 2*z^93 + 2*z^92 + z^91 + z^90 + 2*
z^89 + 2*z^88 + 2*z^87 + 2*z^86 + 2*z^85 + 2*z^84 + 2*z^83 + 2*z^82 + z^81 + 2*z^80 + z^
79 + 2*z^78 + z^77 + 2*z^76 + 2*z^75 + z^74 + z^73 + 2*z^72 + z^71 + 2*z^70 + z^69 + 2*z
^68 + z^67 + 2*z^66 + z^65 + 2*z^64 + 2*z^63 + z^62 + 2*z^61 + 2*z^60 + 2*z^59 + z^58 +
2*z^57 + z^56 + 2*z^55 + 2*z^54 + 2*z^53 + 2*z^52 + z^51 + z^50 + z^49 + 2*z^48 + z^47 +
2*z^46 + 2*z^45 + 2*z^44 + z^43 + z^42 + 2*z^41 + 2*z^40 + z^39 + 2*z^38 + z^37 + 2*z^36
+ 2*z^35 + z^34 + z^33 + z^32 + z^31 + 2*z^30 + 2*z^29 + z^28 + z^27 + 2*z^26 + z^25 + z
^24 + 2*z^23 + 2*z^22 + z^21 + z^20 + 2*z^19 + 2*z^18 + 2*z^17 + 2*z^16 + z^15 + z^14 +
z^13 + z^12 + z^11 + z^10 + 2*z^9 + 2*z^8 + 2*z^7 + z^6 + 2*z^5 + 2*z^4 + z^3 + z^2 + z
+ 1]
[z^255 + z^254 + z^253 + z^252 + z^251 + 2*z^250 + z^249 + z^248 + 2*z^247 + z^246 + 2*z
^245 + z^244 + 2*z^243 + 2*z^242 + 2*z^241 + 2*z^240 + 2*z^239 + z^238 + 2*z^237 + z^236
+ z^235 + 2*z^234 + z^233 + 2*z^232 + 2*z^231 + z^230 + 2*z^229 + z^228 + z^227 + 2*z^226
+ z^225 + 2*z^224 + z^223 + z^222 + z^221 + z^220 + 2*z^219 + z^218 + 2*z^217 + z^216 +
z^215 + 2*z^214 + 2*z^213 + 2*z^212 + 2*z^211 + 2*z^210 + 2*z^209 + z^208 + 2*z^207 + 2*z
^206 + 2*z^205 + 2*z^204 + 2*z^203 + z^202 + 2*z^201 + 2*z^200 + 2*z^199 + z^198 + z^197
+ 2*z^196 + z^195 + z^194 + 2*z^193 + 2*z^192 + 2*z^191 + z^190 + z^189 + z^188 + z^187 +
2*z^186 + 2*z^185 + z^184 + 2*z^183 + 2*z^182 + 2*z^181 + 2*z^180 + 2*z^179 + 2*z^178 + z
^177 + z^176 + z^175 + 2*z^174 + z^173 + 2*z^172 + 2*z^171 + 2*z^170 + z^169 + z^168 + 2*
z^167 + 2*z^166 + 2*z^165 + 2*z^164 + 2*z^163 + 2*z^162 + z^161 + 2*z^160 + 2*z^159 + 2*z
^158 + 2*z^157 + z^156 + z^155 + 2*z^154 + z^153 + 2*z^152 + z^151 + 2*z^150 + 2*z^149 +
2*z^148 + 2*z^147 + 2*z^146 + 2*z^145 + 2*z^144 + z^143 + 2*z^142 + 2*z^141 + 2*z^140 + z
^139 + 2*z^138 + 2*z^137 + z^136 + 2*z^135 + 2*z^134 + z^133 + z^132 + z^131 + z^130 + z^
129 + 2*z^128 + 2*z^127 + z^126 + z^125 + 2*z^124 + z^123 + 2*z^122 + 2*z^121 + 2*z^120 +
2*z^119 + 2*z^118 + z^117 + 2*z^116 + 2*z^115 + z^114 + 2*z^113 + z^112 + z^111 + z^110 +
2*z^109 + z^108 + 2*z^107 + 2*z^106 + 2*z^105 + 2*z^104 + 2*z^103 + 2*z^102 + z^101 + z^1
00 + 2*z^99 + z^98 + 2*z^97 + 2*z^96 + z^95 + z^94 + 2*z^93 + z^92 + 2*z^91 + 2*z^90 + z
^89 + 2*z^88 + z^87 + 2*z^86 + z^85 + z^84 + z^83 + z^82 + z^81 + z^80 + 2*z^79 + z^78 +
2*z^77 + 2*z^76 + 2*z^75 + 2*z^74 + 2*z^73 + 2*z^72 + z^71 + z^70 + 2*z^69 + 2*z^68 + 2*
z^67 + z^66 + z^65 + 2*z^64 + z^63 + 2*z^62 + z^61 + 2*z^60 + 2*z^59 + 2*z^58 + z^57 + 2
*z^56 + 2*z^55 + z^54 + z^53 + 2*z^52 + z^51 + z^50 + z^49 + 2*z^48 + 2*z^47 + z^46 + 2*
z^45 + z^44 + 2*z^43 + 2*z^42 + z^41 + 2*z^40 + 2*z^39 + z^38 + 2*z^37 + 2*z^36 + z^35 +
z^34 + 2*z^33 + 2*z^32 + z^31 + z^30 + 2*z^29 + 2*z^28 + 2*z^27 + z^26 + 2*z^25 + z^24 +
2*z^23 + z^22 + 2*z^21 + z^20 + 2*z^19 + 2*z^18 + 2*z^17 + 2*z^16 + z^15 + 2*z^14 + z^13
+ z^12 + z^11 + z^10 + 2*z^9 + 2*z^8 + 2*z^7 + 2*z^6 + z^5 + z^4 + 2*z^3 + z^2 + 2*z + 2
]
[2*z^255 + 2*z^254 + z^253 + 2*z^252 + 2*z^251 + z
^250 + z^249 + z^248 + 2*z^247 + z^246 + 2*z^245 + 2*z^244 + 2*z^243 + z^242 + 2*z^241 +
2*z^240 + z^239 + 2*z^238 + z^237 + z^236 + 2*z^235 + 2*z^234 + 2*z^233 + 2*z^232 + 2*z^2
31 + z^230 + 2*z^229 + 2*z^228 + 2*z^227 + 2*z^226 + 2*z^225 + 2*z^224 + z^223 + 2*z^222
+ z^221 + z^220 + 2*z^219 + z^218 + 2*z^217 + z^216 + z^215 + 2*z^214 + z^213 + 2*z^212 +
z^211 + 2*z^210 + 2*z^209 + 2*z^208 + 2*z^207 + z^206 + 2*z^205 + 2*z^204 + 2*z^203 + 2*z
^202 + 2*z^201 + z^200 + z^199 + 2*z^198 + 2*z^197 + z^196 + 2*z^195 + 2*z^194 + 2*z^193
+ z^192 + z^191 + z^190 + z^189 + 2*z^188 + z^187 + 2*z^186 + 2*z^185 + 2*z^184 + z^183 +
z^182 + z^181 + 2*z^180 + 2*z^179 + z^178 + 2*z^177 + z^176 + z^175 + 2*z^174 + z^173 + z
^172 + 2*z^171 + 2*z^170 + z^169 + 2*z^168 + z^167 + z^166 + z^165 + z^164 + z^163 + z^16
2 + z^161 + 2*z^160 + z^159 + z^158 + z^157 + z^156 + z^155 + z^154 + 2*z^153 + 2*z^152
+ z^151 + z^150 + z^149 + z^148 + 2*z^147 + 2*z^146 + z^145 + z^144 + 2*z^143 + 2*z^142 +
z^141 + 2*z^140 + z^139 + z^138 + z^137 + 2*z^136 + 2*z^135 + 2*z^134 + 2*z^133 + z^132 +
2*z^131 + z^130 + z^129 + z^128 + 2*z^127 + z^126 + z^125 + z^124 + 2*z^123 + z^122 + 2*
z^121 + 2*z^120 + 2*z^119 + z^118 + 2*z^117 + 2*z^116 + 2*z^115 + 2*z^114 + 2*z^113 + z^1
12 + 2*z^111 + z^110 + z^109 + z^108 + 2*z^107 + z^106 + z^105 + z^104 + 2*z^103 + 2*z^1
02 + z^101 + 2*z^100 + z^99 + z^98 + 2*z^97 + 2*z^96 + z^95 + 2*z^94 + 2*z^93 + 2*z^92 +
2*z^91 + z^90 + 2*z^89 + 2*z^88 + z^87 + z^86 + 2*z^85 + z^84 + z^83 + z^82 + z^81 + 2*z
^80 + z^79 + 2*z^78 + 2*z^77 + 2*z^76 + z^75 + 2*z^74 + 2*z^73 + z^72 + z^71 + 2*z^70 +
z^69 + z^68 + 2*z^67 + z^66 + z^65 + z^64 + z^63 + 2*z^62 + 2*z^61 + z^60 + 2*z^59 + z^5
8 + z^57 + 2*z^56 + z^55 + z^54 + 2*z^53 + z^52 + 2*z^51 + z^50 + 2*z^49 + 2*z^48 + z^47
+ z^46 + 2*z^45 + 2*z^44 + 2*z^43 + 2*z^42 + z^41 + 2*z^40 + z^39 + z^38 + 2*z^37 + z^36
+ z^35 + 2*z^34 + z^33 + 2*z^32 + 2*z^31 + 2*z^30 + 2*z^29 + z^28 + z^27 + z^26 + z^25 +
2*z^24 + z^23 + z^22 + 2*z^21 + z^20 + z^19 + z^18 + z^17 + z^16 + 2*z^15 + 2*z^14 + 2*z
^13 + z^12 + z^11 + z^10 + z^9 + 2*z^8 + 2*z^7 + z^6 + 2*z^5 + z^4 + 2*z^3 + 2*z^2 + z +
2]
[z^255 + 2*z^254 + 2*z^253 + z^252 + 2*z^251 + 2*z^250 + z^249
+ z^248 + 2*z^247 + z^246 + z^245 + z^244 + z^243 + z^242 + 2*z^241 + 2*z^240 + 2*z^239 +
z^238 + 2*z^237 + z^236 + z^235 + z^234 + z^233 + 2*z^232 + 2*z^231 + z^230 + z^229 + 2*z
^228 + z^227 + 2*z^226 + z^225 + z^224 + 2*z^223 + 2*z^222 + 2*z^221 + 2*z^220 + z^219 +
z^218 + 2*z^217 + 2*z^216 + z^215 + z^214 + 2*z^213 + 2*z^212 + z^211 + z^210 + z^209 + z
^208 + z^207 + z^206 + 2*z^205 + 2*z^204 + z^203 + z^202 + 2*z^201 + 2*z^200 + 2*z^199 +

z^198 + 2*z^197 + z^196 + 2*z^195 + 2*z^194 + z^193 + 2*z^192 + z^191 + 2*z^190 + 2*z^189 + 2*z^188 + 2*z^187 + 2*z^186 + z^185 + z^184 + z^183 + z^182 + 2*z^181 + z^180 + 2*z^179 + z^178 + 2*z^177 + 2*z^176 + 2*z^175 + z^174 + 2*z^173 + 2*z^172 + z^171 + 2*z^170 + 2*z^169 + z^168 + z^167 + 2*z^166 + z^165 + z^164 + 2*z^163 + z^162 + 2*z^161 + z^160 + z^159 + 2*z^158 + 2*z^157 + z^156 + z^155 + 2*z^154 + 2*z^153 + z^152 + 2*z^151 + 2*z^150 + z^149 + z^148 + z^147 + z^146 + 2*z^145 + z^144 + 2*z^143 + 2*z^142 + 2*z^141 + z^140 + z^139 + z^138 + z^137 + z^136 + 2*z^135 + z^134 + z^133 + 2*z^132 + 2*z^131 + 2*z^130 + z^129 + 2*z^128 + z^127 + z^126 + z^125 + 2*z^124 + z^123 + z^122 + z^121 + z^120 + z^119 + 2*z^118 + 2*z^117 + 2*z^116 + z^115 + z^114 + z^113 + z^112 + 2*z^111 + 2*z^110 + z^109 + 2*z^108 + z^107 + 2*z^106 + 2*z^105 + 2*z^104 + 2*z^103 + 2*z^102 + 2*z^101 + z^100 + 2*z^99 + z^98 + 2*z^97 + 2*z^96 + 2*z^95 + 2*z^94 + 2*z^93 + 2*z^92 + 2*z^91 + 2*z^90 + z^89 + 2*z^88 + 2*z^87 + 2*z^86 + z^85 + z^84 + z^83 + z^82 + z^81 + 2*z^80 + z^79 + 2*z^78 + 2*z^77 + 2*z^76 + 2*z^75 + 2*z^74 + z^73 + z^72 + z^71 + z^70 + z^69 + 2*z^68 + z^67 + z^66 + 2*z^65 + 2*z^64 + z^63 + 2*z^62 + z^61 + 2*z^60 + z^59 + 2*z^58 + 2*z^57 + z^56 + z^55 + 2*z^54 + z^53 + 2*z^52 + z^51 + 2*z^50 + 2*z^49 + z^48 + z^47 + z^46 + z^45 + 2*z^44 + 2*z^43 + z^42 + z^41 + 2*z^40 + 2*z^39 + 2*z^38 + z^37 + z^36 + z^35 + z^34 + 2*z^33 + z^32 + 2*z^31 + 2*z^30 + 2*z^29 + z^28 + z^27 + 2*z^26 + z^25 + 2*z^24 + 2*z^23 + 2*z^22 + z^21 + 2*z^20 + z^19 + 2*z^18 + 2*z^17 + 2*z^16 + 2*z^15 + 2*z^14 + 2*z^13 + 2*z^12 + 2*z^11 + z^10 + 2*z^9 + 2*z^8 + 2*z^7 + z^6 + 2*z^5 + z^4 + 2*z^3 + z^2 + 2*z + 2]
[2*z^255 + 2*z^254 + z^253 + 2*z^252 + z^251 + z^250 + 2*z^249 + z^248 + z^247 + z^246 + z^245 + z^244 + 2*z^243 + z^242 + 2*z^241 + 2*z^240 + 2*z^239 + 2*z^238 + 2*z^237 + 2*z^236 + 2*z^235 + 2*z^234 + z^233 + z^232 + 2*z^231 + z^230 + 2*z^229 + z^228 + z^227 + 2*z^226 + z^225 + z^224 + z^223 + 2*z^222 + 2*z^221 + 2*z^220 + 2*z^219 + 2*z^218 + z^217 + z^216 + z^215 + 2*z^214 + z^213 + 2*z^212 + 2*z^211 + z^210 + 2*z^209 + 2*z^208 + z^207 + 2*z^206 + 2*z^205 + z^204 + z^203 + z^202 + z^201 + z^200 + z^199 + 2*z^198 + 2*z^197 + z^196 + 2*z^195 + z^194 + 2*z^193 + 2*z^192 + z^191 + 2*z^190 + z^189 + z^188 + z^187 + 2*z^186 + 2*z^185 + z^184 + z^183 + z^182 + z^181 + z^180 + z^179 + z^178 + 2*z^177 + z^176 + 2*z^175 + 2*z^174 + 2*z^173 + z^172 + 2*z^171 + 2*z^170 + z^169 + z^168 + z^167 + z^166 + 2*z^165 + z^164 + z^163 + 2*z^162 + 2*z^161 + z^160 + z^159 + z^158 + 2*z^157 + z^156 + z^155 + z^154 + 2*z^153 + z^152 + 2*z^151 + 2*z^150 + z^149 + 2*z^148 + 2*z^147 + z^146 + 2*z^145 + 2*z^144 + 2*z^143 + z^142 + 2*z^141 + 2*z^140 + z^139 + z^138 + z^137 + 2*z^136 + 2*z^135 + z^134 + 2*z^133 + 2*z^132 + 2*z^131 + 2*z^130 + 2*z^129 + z^128 + z^127 + 2*z^126 + 2*z^125 + 2*z^124 + 2*z^123 + z^122 + z^121 + z^120 + 2*z^119 + z^118 + z^117 + z^116 + 2*z^115 + 2*z^114 + z^113 + z^112 + z^111 + 2*z^110 + z^109 + z^108 + 2*z^107 + 2*z^106 + 2*z^105 + 2*z^104 + z^103 + 2*z^102 + 2*z^101 + z^100 + z^99 + 2*z^98 + 2*z^97 + 2*z^96 + z^95 + z^94 + z^93 + z^92 + z^91 + z^90 + z^89 + z^88 + z^87 + z^86 + 2*z^85 + 2*z^84 + z^83 + z^82 + 2*z^81 + 2*z^80 + z^79 + 2*z^78 + 2*z^77 + z^76 + 2*z^75 + 2*z^74 + 2*z^73 + 2*z^72 + z^71 + z^70 + z^69 + z^68 + z^67 + z^66 + z^65 + z^64 + z^63 + z^62 + z^61 + 2*z^60 + 2*z^59 + z^58 + z^57 + z^56 + 2*z^55 + 2*z^54 + z^53 + z^52 + 2*z^51 + z^50 + z^49 + z^48 + 2*z^47 + z^46 + 2*z^45 + 2*z^44 + z^43 + 2*z^42 + 2*z^41 + z^40 + z^39 + 2*z^38 + z^37 + z^36 + 2*z^35 + z^34 + 2*z^33 + 2*z^32 + z^31 + 2*z^30 + 2*z^29 + z^28 + z^27 + 2*z^26 + z^25 + z^24 + 2*z^23 + z^22 + 2*z^21 + 2*z^20 + 2*z^19 + z^18 + 2*z^17 + z^16 + 2*z^15 + z^14 + z^13 + z^12 + z^11 + 2*z^10 + z^9 + 2*z^8 + z^7 + z^6 + 2*z^5 + z^4 + 2*z^3 + 2*z^2 + 2*z + 1]
[2*z^255 + z^254 + z^253 + 2*z^252 + 2*z^251 + z^250 + 2*z^249 + z^248 + 2*z^247 + 2*z^246 + z^245 + z^244 + z^243 + 2*z^242 + 2*z^241 + z^240 + 2*z^239 + z^238 + 2*z^237 + 2*z^236 + 2*z^235 + z^234 + 2*z^233 + z^232 + z^231 + z^230 + 2*z^229 + 2*z^228 + z^227 + 2*z^226 + z^225 + z^224 + z^223 + 2*z^222 + z^221 + z^220 + z^219 + z^218 + z^217 + z^216 + z^215 + 2*z^214 + z^213 + z^212 + z^211 + z^210 + 2*z^209 + 2*z^208 + z^207 + 2*z^206 + z^205 + 2*z^204 + z^203 + z^202 + 2*z^201 + z^200 + z^199 + 2*z^198 + z^197 + z^196 + z^195 + z^194 + 2*z^193 + z^192 + 2*z^191 + z^190 + z^189 + z^188 + z^187 + z^186 + 2*z^185 + 2*z^184 + z^183 + 2*z^182 + 2*z^181 + z^180 + 2*z^179 + z^178 + 2*z^177 + 2*z^176 + 2*z^175 + z^174 + 2*z^173 + 2*z^172 + z^171 + 2*z^170 + 2*z^169 + z^168 + 2*z^167 + z^166 + 2*z^165 + 2*z^164 + z^163 + z^162 + z^161 + 2*z^160 + z^159 + z^158 + z^157 + z^156 + z^155 + 2*z^154 + z^153 + 2*z^152 + z^151 + 2*z^150 + 2*z^149 + 2*z^148 + 2*z^147 + 2*z^146 + z^145 + 2*z^144 + z^143 + 2*z^142 + z^141 + z^140 + z^139 + z^138 + 2*z^137 + z^136 + 2*z^135 + z^134 + 2*z^133 + 2*z^132 + z^131 + z^130 + 2*z^129 + 2*z^128 + 2*z^127 + z^126 + z^125 + 2*z^124 + 2*z^123 + 2*z^122 + z^121 + z^120 + 2*z^119 + z^118 + z^117 + z^116 + z^115 + 2*z^114 + 2*z^113 + z^112 + 2*z^111 + 2*z^110 + z^109 + z^108 + 2*z^107 + 2*z^106 + z^105 + 2*z^104 + 2*z^103 + z^102 + z^101 + z^100 + z^99 + z^98 + 2*z^97 + 2*z^96 + 2*z^95 + 2*z^94 + 2*z^93 + 2*z^92 + z^91 + z^90 + z^89 + 2*z^88 + z^87 + z^86 + 2*z^85 + 2*z^84 + z^83 + 2*z^82 + 2*z^81 + z^80 + z^79 + z^78 + z^77 + z^76 + z^75 + z^74 + z^73 + 2*z^72 + 2*z^71 + 2*z^70 + 2*z^69 + 2*z^68 + z^67 + 2*z^66 + 2*z^65 + 2*z^64 + z^63 + 2*z^62 + 2*z^61 + 2*z^60 + 2*z^59 + z^58 + z^57 + z^56 + 2*z^55 + z^54 + z^53 + 2*z^52 + z^51 + 2*z^50 + 2*z^49 + 2*z^48 + 2*z^47 + 2*z^46 + 2*z^45 + z^44 + 2*z^43 + z^42 + 2*z^41 + z^40 + 2*z^39 + z^38 + 2*z^37 + 2*z^36 + z^35 + 2*z^34 + z^33 + z^32 + z^31 + z^30 + z^29 + z^28 + 2*z^27 + z^26 + z^25 + 2*z^24 + 2*z^23 + z^22 + 2*z^21 + 2*z^20 + z^19 + z^18 + 2*z^17 + z^16 + 2*z^15 + 2*z^14 + 2*z^13 + 2*z^12 + 2*z^11 + z^10 + z^9 + z^8 + z^7 + z^6 + z^5 + 2*z^4 + 2*z^3 + z^2 + 2*z + 1]
[2*z^255 + 2*z^254 + 2*z^253 + 2*z^252 + z^251 + 2*z^250 + 2*z^249 + z^248 + z^247 + z^246 + 2*z^245 + z^244 + 2*z^243 + z^242 + z^241 + z^240 + 2*z^239 + z^238 +

2*z^237 + z^236 + z^235 + 2*z^234 + z^233 + 2*z^232 + 2*z^231 + 2*z^230 + z^229 + 2*z^228
+ 2*z^227 + z^226 + z^225 + 2*z^224 + 2*z^223 + 2*z^222 + z^221 + z^220 + 2*z^219 + 2*z^2
18 + 2*z^217 + 2*z^216 + 2*z^215 + 2*z^214 + z^213 + 2*z^212 + 2*z^211 + z^210 + z^209 +
2*z^208 + 2*z^207 + 2*z^206 + 2*z^205 + z^204 + z^203 + 2*z^202 + 2*z^201 + 2*z^200 + 2*z
^199 + z^198 + z^197 + 2*z^196 + 2*z^195 + z^194 + z^193 + z^192 + z^191 + 2*z^190 + z^18
9 + 2*z^188 + 2*z^187 + z^186 + 2*z^185 + 2*z^184 + z^183 + 2*z^182 + 2*z^181 + 2*z^180 +
2*z^179 + z^178 + z^177 + z^176 + 2*z^175 + 2*z^174 + z^173 + z^172 + z^171 + 2*z^170 +
2*z^169 + 2*z^168 + 2*z^167 + 2*z^166 + z^165 + z^164 + z^163 + 2*z^162 + 2*z^161 + 2*z^1
60 + 2*z^159 + z^158 + z^157 + 2*z^156 + 2*z^155 + z^154 + 2*z^153 + z^152 + 2*z^151 + 2*
z^150 + 2*z^149 + 2*z^148 + z^147 + z^146 + z^145 + z^144 + z^143 + 2*z^142 + z^141 + 2*z
^140 + 2*z^139 + z^138 + z^137 + z^136 + 2*z^135 + 2*z^134 + 2*z^133 + 2*z^132 + 2*z^131
+ 2*z^130 + z^129 + z^128 + z^127 + z^126 + z^125 + 2*z^124 + z^123 + 2*z^122 + z^121 +
z^120 + z^119 + 2*z^118 + z^117 + z^116 + z^115 + z^114 + z^113 + 2*z^112 + 2*z^111 + 2*z
^110 + 2*z^109 + z^108 + z^107 + z^106 + z^105 + z^104 + z^103 + 2*z^102 + 2*z^101 + 2*z^
100 + 2*z^99 + 2*z^98 + z^97 + z^96 + 2*z^95 + 2*z^94 + z^93 + 2*z^92 + z^91 + z^90 + z^
89 + z^88 + 2*z^87 + 2*z^86 + z^85 + 2*z^84 + z^83 + 2*z^82 + z^81 + 2*z^80 + z^79 + 2*z
^78 + 2*z^77 + 2*z^76 + 2*z^75 + 2*z^74 + z^73 + 2*z^72 + z^71 + z^70 + 2*z^69 + 2*z^68
+ 2*z^67 + z^66 + 2*z^65 + 2*z^64 + 2*z^63 + 2*z^62 + z^61 + z^60 + z^59 + 2*z^58 + z^57
+ 2*z^56 + 2*z^55 + 2*z^54 + z^53 + z^52 + z^51 + z^50 + z^49 + 2*z^48 + z^47 + 2*z^46 +
2*z^45 + 2*z^44 + z^43 + 2*z^42 + z^41 + z^40 + z^39 + 2*z^38 + z^37 + 2*z^36 + z^35 + 2
*z^34 + 2*z^33 + z^32 + 2*z^31 + z^30 + 2*z^29 + z^28 + z^27 + 2*z^26 + 2*z^25 + z^24 +
z^23 + 2*z^22 + z^21 + z^20 + 2*z^19 + 2*z^18 + 2*z^17 + 2*z^16 + z^15 + 2*z^14 + z^13 +
2*z^12 + 2*z^11 + 2*z^10 + z^9 + 2*z^8 + 2*z^7 + z^6 + 2*z^5 + 2*z^4 + 2*z^3 + z^2 + 2*z
+ 2]
[z^255 + z^254 + z^253 + 2*z^252 + z^251 + 2*z^250 + z^249 +
z^248 + z^247 + z^246 + 2*z^245 + 2*z^244 + z^243 + 2*z^242 + 2*z^241 + z^240 + 2*z^239 +
2*z^238 + 2*z^237 + 2*z^236 + 2*z^235 + 2*z^234 + 2*z^233 + z^232 + z^231 + 2*z^230 + 2*z
^229 + 2*z^228 + z^227 + z^226 + z^225 + z^224 + 2*z^223 + 2*z^222 + z^221 + z^220 + 2*z^
219 + z^218 + z^217 + 2*z^216 + 2*z^215 + 2*z^214 + 2*z^213 + 2*z^212 + 2*z^211 + 2*z^210
+ 2*z^209 + 2*z^208 + 2*z^207 + 2*z^206 + z^205 + z^204 + 2*z^203 + z^202 + 2*z^201 + z^2
00 + 2*z^199 + 2*z^198 + 2*z^197 + z^196 + 2*z^195 + z^194 + 2*z^193 + z^192 + z^191 + 2*
z^190 + 2*z^189 + z^188 + z^187 + z^186 + 2*z^185 + 2*z^184 + 2*z^183 + z^182 + 2*z^181 +
2*z^180 + z^179 + z^178 + 2*z^177 + z^176 + 2*z^175 + 2*z^174 + 2*z^173 + z^172 + z^171 +
z^170 + 2*z^169 + z^168 + z^167 + z^166 + z^165 + 2*z^164 + z^163 + 2*z^162 + z^161 + z^1
60 + z^159 + z^158 + 2*z^157 + 2*z^156 + 2*z^155 + z^154 + z^153 + z^152 + 2*z^151 + z^15
0 + z^149 + 2*z^148 + 2*z^147 + 2*z^146 + z^145 + z^144 + z^143 + 2*z^142 + 2*z^141 + z^1
40 + 2*z^139 + z^138 + 2*z^137 + 2*z^136 + 2*z^135 + 2*z^134 + 2*z^133 + z^132 + z^131 +
2*z^130 + z^129 + 2*z^128 + z^127 + 2*z^126 + z^125 + z^124 + 2*z^123 + 2*z^122 + z^121 +
2*z^120 + z^119 + 2*z^118 + 2*z^117 + 2*z^116 + 2*z^115 + z^114 + 2*z^113 + z^112 + 2*z^1
11 + 2*z^110 + z^109 + z^108 + z^107 + 2*z^106 + z^105 + 2*z^104 + 2*z^103 + z^102 + 2*z^
101 + z^100 + 2*z^99 + 2*z^98 + z^97 + z^96 + z^95 + z^94 + z^93 + 2*z^92 + z^91 + 2*z^9
0 + z^89 + z^88 + z^87 + 2*z^86 + 2*z^85 + z^84 + 2*z^83 + z^82 + z^81 + 2*z^80 + z^79 +
2*z^78 + z^77 + 2*z^76 + z^75 + 2*z^74 + 2*z^73 + 2*z^72 + z^71 + 2*z^70 + 2*z^69 + 2*z^
68 + 2*z^67 + 2*z^66 + z^65 + 2*z^64 + 2*z^63 + 2*z^62 + 2*z^61 + 2*z^60 + 2*z^59 + z^58
+ 2*z^57 + z^56 + z^55 + z^54 + z^53 + 2*z^52 + z^51 + 2*z^50 + z^49 + 2*z^48 + z^47 + 2
*z^46 + z^45 + 2*z^44 + z^43 + z^42 + z^41 + 2*z^40 + z^39 + z^38 + 2*z^37 + 2*z^36 + z^
35 + 2*z^34 + z^33 + z^32 + z^31 + z^30 + z^29 + z^28 + 2*z^27 + z^26 + 2*z^25 + z^24 +
z^23 + z^22 + 2*z^21 + 2*z^20 + z^19 + 2*z^18 + z^17 + z^16 + 2*z^15 + 2*z^14 + 2*z^13 +
z^12 + 2*z^11 + z^10 + z^9 + 2*z^8 + 2*z^7 + 2*z^6 + z^5 + 2*z^4 + z^3 + z^2 + 2*z + 2],
[2*z^255 + z^254 + z^253 + z^252 + 2*z^251 +
2*z^250 + z^249 + z^248 + z^247 + z^246 + z^245 + z^244 + z^243 + z^242 + z^241 + 2*z^24
0 + 2*z^239 + 2*z^238 + 2*z^237 + z^236 + z^235 + 2*z^234 + z^233 + z^232 + 2*z^231 + z^2
30 + z^229 + z^228 + 2*z^227 + 2*z^226 + z^225 + 2*z^224 + z^223 + z^222 + 2*z^221 + 2*z^
220 + 2*z^219 + z^218 + z^217 + z^216 + 2*z^215 + z^214 + z^213 + 2*z^212 + 2*z^211 + z^2
10 + z^209 + 2*z^208 + 2*z^207 + 2*z^206 + z^205 + 2*z^204 + z^203 + 2*z^202 + 2*z^201 +
2*z^200 + z^199 + 2*z^198 + z^197 + z^196 + 2*z^195 + z^194 + 2*z^193 + z^192 + z^191 +
2*z^190 + 2*z^189 + z^188 + z^187 + 2*z^186 + 2*z^185 + 2*z^184 + 2*z^183 + z^182 + z^181
+ z^180 + 2*z^179 + z^178 + z^177 + 2*z^176 + 2*z^175 + 2*z^174 + 2*z^173 + z^172 + z^171
+ 2*z^170 + 2*z^169 + z^168 + z^167 + z^166 + 2*z^165 + z^164 + 2*z^163 + 2*z^162 + z^161
+ 2*z^160 + 2*z^159 + 2*z^158 + 2*z^157 + z^156 + z^155 + 2*z^154 + 2*z^153 + 2*z^152 + 2
*z^151 + z^150 + 2*z^149 + z^148 + 2*z^147 + 2*z^146 + z^145 + z^144 + z^143 + 2*z^142 +
z^141 + z^140 + 2*z^139 + z^138 + 2*z^137 + z^136 + z^135 + z^134 + 2*z^133 + 2*z^132 + 2
*z^131 + 2*z^130 + z^129 + z^128 + 2*z^127 + 2*z^126 + 2*z^125 + 2*z^124 + z^123 + 2*z^12
2 + 2*z^121 + 2*z^120 + z^119 + 2*z^118 + 2*z^117 + z^116 + 2*z^115 + 2*z^114 + z^113 + z
^112 + 2*z^111 + z^110 + z^109 + z^108 + 2*z^107 + 2*z^106 + z^105 + z^104 + z^103 + 2*z^
102 + z^101 + z^100 + 2*z^99 + 2*z^98 + z^97 + 2*z^96 + z^95 + 2*z^94 + 2*z^93 + z^92 +
z^91 + z^90 + z^89 + z^88 + 2*z^87 + z^86 + z^85 + 2*z^84 + z^83 + z^82 + z^81 + z^80 +
2*z^79 + z^78 + 2*z^77 + 2*z^76 + 2*z^75 + z^74 + 2*z^73 + z^72 + z^71 + z^70 + z^69 + z
^68 + z^67 + z^66 + z^65 + z^64 + 2*z^63 + 2*z^62 + 2*z^61 + z^60 + z^59 + z^58 + 2*z^57
+ z^56 + z^55 + z^54 + 2*z^53 + z^52 + 2*z^51 + z^50 + z^49 + z^48 + 2*z^47 + 2*z^46 + 2
*z^45 + 2*z^44 + 2*z^43 + z^42 + z^41 + 2*z^40 + 2*z^39 + 2*z^38 + 2*z^37 + z^36 + z^35
+ z^34 + 2*z^33 + 2*z^32 + z^31 + z^30 + z^29 + 2*z^28 + 2*z^27 + 2*z^26 + z^25 + 2*z^24

```
+ z^23 + z^22 + z^21 + z^20 + 2*z^19 + z^18 + z^17 + z^16 + 2*z^15 + z^14 + z^13 + z^12
+ z^11 + z^10 + z^9 + z^8 + z^7 + 2*z^6 + 2*z^5 + 2*z^4 + 2*z^3 + 2*z^2 + z + 1]
[        z^255 + 2*z^254 + z^253 + z^252 + z^251 + z^250 + 2*z^249 + 2*z^248 + z^247 + z
^246 + 2*z^245 + z^244 + z^243 + z^242 + z^241 + z^240 + z^239 + 2*z^238 + z^237 + 2*z^2
36 + z^235 + 2*z^234 + z^233 + z^232 + z^231 + 2*z^230 + z^229 + 2*z^228 + 2*z^227 + 2*z^
226 + 2*z^225 + z^224 + z^223 + 2*z^222 + z^221 + 2*z^220 + 2*z^219 + z^218 + z^217 + 2*z
^216 + z^215 + z^214 + 2*z^213 + 2*z^212 + 2*z^211 + 2*z^210 + z^209 + 2*z^208 + z^207 +
z^206 + 2*z^205 + z^204 + 2*z^203 + z^202 + z^201 + 2*z^200 + z^199 + z^198 + z^197 + z^1
96 + 2*z^195 + z^194 + 2*z^193 + 2*z^192 + z^191 + 2*z^190 + z^189 + z^188 + 2*z^187 + z^
186 + z^185 + 2*z^184 + 2*z^183 + 2*z^182 + 2*z^181 + z^180 + z^179 + z^178 + 2*z^177 + 2
*z^176 + 2*z^175 + 2*z^174 + z^173 + 2*z^172 + 2*z^171 + 2*z^170 + z^169 + z^168 + 2*z^16
7 + 2*z^166 + 2*z^165 + 2*z^164 + 2*z^163 + 2*z^162 + z^161 + 2*z^160 + 2*z^159 + 2*z^158
+ z^157 + z^156 + z^155 + 2*z^154 + z^153 + 2*z^152 + 2*z^151 + 2*z^150 + 2*z^149 + 2*z^1
48 + z^147 + z^146 + z^145 + 2*z^144 + 2*z^143 + 2*z^142 + 2*z^141 + 2*z^140 + z^139 + z^
138 + 2*z^137 + z^136 + z^135 + 2*z^134 + z^133 + z^132 + z^131 + z^130 + 2*z^129 + 2*z^1
28 + 2*z^127 + 2*z^126 + 2*z^125 + z^124 + 2*z^123 + 2*z^122 + 2*z^121 + 2*z^120 + z^119
+ z^118 + 2*z^117 + 2*z^116 + z^115 + z^114 + z^113 + 2*z^112 + z^111 + 2*z^110 + z^109 +
2*z^108 + z^107 + 2*z^106 + 2*z^105 + z^104 + z^103 + z^102 + 2*z^101 + z^100 + z^99 + z^
98 + z^97 + z^96 + z^95 + 2*z^94 + z^93 + 2*z^92 + 2*z^91 + 2*z^90 + z^89 + 2*z^88 + z^8
7 + 2*z^86 + z^85 + 2*z^84 + z^83 + 2*z^82 + z^81 + 2*z^80 + z^79 + z^78 + z^77 + 2*z^76
+ 2*z^75 + 2*z^74 + 2*z^73 + 2*z^72 + z^71 + 2*z^70 + 2*z^69 + 2*z^68 + 2*z^67 + z^66 +
2*z^65 + z^64 + 2*z^63 + 2*z^62 + 2*z^61 + z^60 + 2*z^59 + 2*z^58 + 2*z^57 + 2*z^56 + z^
55 + z^54 + 2*z^53 + 2*z^52 + z^51 + z^50 + 2*z^49 + 2*z^48 + 2*z^47 + 2*z^46 + z^45 + z
^44 + 2*z^43 + z^42 + z^41 + 2*z^40 + 2*z^39 + z^38 + 2*z^37 + 2*z^36 + 2*z^35 + 2*z^34
+ 2*z^33 + 2*z^32 + 2*z^31 + 2*z^30 + 2*z^29 + 2*z^28 + z^27 + 2*z^26 + 2*z^25 + z^24 +
2*z^23 + z^22 + z^21 + z^20 + z^19 + z^18 + z^17 + 2*z^16 + z^15 + 2*z^14 + z^13 + 2*z^1
2 + 2*z^11 + z^10 + z^9 + 2*z^8 + z^7 + 2*z^6 + z^5 + 2*z^4 + z^3 + z^2 + 2*z + 1]
[                2*z^255 + 2*z^254 + 2*z^253 + 2*z^252 + 2*z^251 + z^250 + 2*z^2
49 + z^248 + z^247 + z^246 + 2*z^245 + 2*z^244 + z^243 + z^242 + z^241 + z^240 + z^239 +
2*z^238 + 2*z^237 + z^236 + 2*z^235 + 2*z^234 + z^233 + 2*z^232 + 2*z^231 + z^230 + 2*z^2
29 + z^228 + 2*z^227 + 2*z^226 + 2*z^225 + 2*z^224 + 2*z^223 + z^222 + z^221 + z^220 + 2*
z^219 + 2*z^218 + 2*z^217 + 2*z^216 + z^215 + 2*z^214 + z^213 + 2*z^212 + 2*z^211 + 2*z^2
10 + 2*z^209 + z^208 + z^207 + 2*z^206 + 2*z^205 + 2*z^204 + z^203 + z^202 + z^201 + z^20
0 + 2*z^199 + 2*z^198 + z^197 + z^196 + 2*z^195 + 2*z^194 + z^193 + 2*z^192 + z^191 + 2*z
^190 + z^189 + z^188 + z^187 + z^186 + z^185 + z^184 + 2*z^183 + z^182 + 2*z^181 + 2*z^1
80 + z^179 + z^178 + z^177 + z^176 + 2*z^175 + z^174 + z^173 + z^172 + z^171 + z^170 + z
^169 + 2*z^168 + 2*z^167 + 2*z^166 + z^165 + 2*z^164 + 2*z^163 + z^162 + z^161 + z^160 +
z^159 + 2*z^158 + 2*z^157 + z^156 + z^155 + 2*z^154 + z^153 + 2*z^152 + z^151 + 2*z^150 +
z^149 + 2*z^148 + z^147 + 2*z^146 + 2*z^145 + 2*z^144 + 2*z^143 + z^142 + z^141 + 2*z^140
+ 2*z^139 + 2*z^138 + z^137 + z^136 + 2*z^135 + 2*z^134 + z^133 + 2*z^132 + 2*z^131 + z^1
30 + 2*z^129 + z^128 + z^127 + z^126 + z^125 + z^124 + 2*z^123 + 2*z^122 + 2*z^121 + z^12
0 + 2*z^119 + 2*z^118 + 2*z^117 + 2*z^116 + z^115 + 2*z^114 + 2*z^113 + z^112 + z^111 + 2
*z^110 + 2*z^109 + z^108 + z^107 + z^106 + z^105 + 2*z^104 + 2*z^103 + z^102 + z^101 + z^
100 + 2*z^99 + z^98 + z^97 + 2*z^96 + z^95 + z^94 + z^93 + z^92 + 2*z^91 + z^90 + 2*z^89
+ 2*z^88 + z^87 + z^86 + z^85 + 2*z^84 + 2*z^83 + 2*z^82 + 2*z^81 + 2*z^80 + 2*z^79 + z^
78 + z^77 + z^76 + z^75 + z^74 + 2*z^73 + z^72 + z^71 + z^70 + 2*z^69 + 2*z^68 + z^67 +
2*z^66 + z^65 + z^64 + 2*z^63 + 2*z^62 + 2*z^61 + z^60 + z^59 + 2*z^58 + 2*z^57 + 2*z^56
+ z^55 + z^54 + 2*z^53 + z^52 + 2*z^51 + 2*z^50 + z^49 + z^48 + z^47 + z^46 + 2*z^45 + z
^44 + z^43 + 2*z^42 + z^41 + z^40 + 2*z^39 + 2*z^38 + 2*z^37 + 2*z^36 + 2*z^35 + z^34 +
2*z^33 + 2*z^32 + z^31 + 2*z^30 + z^29 + z^28 + 2*z^27 + 2*z^26 + 2*z^25 + z^24 + 2*z^23
+ z^22 + z^21 + 2*z^20 + z^19 + z^18 + 2*z^17 + 2*z^16 + z^15 + 2*z^14 + z^13 + 2*z^12 +
2*z^11 + z^10 + 2*z^9 + z^8 + 2*z^7 + z^6 + z^5 + 2*z^4 + z^3 + 2*z^2 + 2*z + 2]
[                z^255 + 2*z^254 + 2*z^253 + 2*z^252 + 2*z^251 + 2*z^250 + z^249 + 2*z^248
+ z^247 + 2*z^246 + z^245 + 2*z^244 + 2*z^243 + 2*z^242 + z^241 + 2*z^240 + 2*z^239 + z^2
38 + 2*z^237 + z^236 + 2*z^235 + 2*z^234 + 2*z^233 + 2*z^232 + z^231 + z^230 + z^229 + 2*
z^228 + 2*z^227 + z^226 + 2*z^225 + z^224 + 2*z^223 + z^222 + 2*z^221 + z^220 + 2*z^219 +
2*z^218 + 2*z^217 + 2*z^216 + z^215 + z^214 + z^213 + 2*z^212 + 2*z^211 + z^210 + z^209 +
z^208 + 2*z^207 + z^206 + z^205 + z^204 + 2*z^203 + 2*z^202 + 2*z^201 + z^200 + 2*z^199 +
2*z^198 + 2*z^197 + z^196 + 2*z^195 + 2*z^194 + 2*z^193 + 2*z^192 + z^191 + z^190 + z^189
+ z^188 + 2*z^187 + z^186 + 2*z^185 + 2*z^184 + z^183 + 2*z^182 + 2*z^181 + z^180 + 2*z^1
79 + 2*z^178 + 2*z^177 + 2*z^176 + z^175 + 2*z^174 + z^173 + 2*z^172 + z^171 + z^170 + 2*
z^169 + z^168 + z^167 + 2*z^166 + z^165 + z^164 + 2*z^163 + 2*z^162 + 2*z^161 + z^160 +
z^159 + 2*z^158 + 2*z^157 + 2*z^156 + 2*z^155 + z^154 + z^153 + z^152 + z^151 + 2*z^150 +
z^149 + z^148 + 2*z^147 + 2*z^146 + 2*z^145 + 2*z^144 + z^143 + 2*z^142 + 2*z^141 + z^140
+ z^139 + 2*z^138 + 2*z^137 + z^136 + z^135 + 2*z^134 + z^133 + z^132 + z^131 + 2*z^130 +
z^129 + z^128 + 2*z^127 + z^126 + z^125 + z^124 + 2*z^123 + 2*z^122 + 2*z^121 + z^120 + 2
*z^119 + 2*z^118 + z^117 + 2*z^116 + 2*z^115 + 2*z^114 + z^113 + z^112 + z^111 + 2*z^110
+ 2*z^109 + 2*z^108 + z^107 + z^106 + z^105 + z^104 + z^103 + z^102 + z^101 + 2*z^100 +
z^99 + z^98 + z^97 + 2*z^96 + z^95 + z^94 + z^93 + 2*z^92 + z^91 + 2*z^90 + 2*z^89 + 2*z
^88 + 2*z^87 + 2*z^86 + z^85 + z^84 + 2*z^83 + 2*z^82 + 2*z^81 + z^80 + z^79 + z^78 + z^
77 + 2*z^76 + 2*z^75 + z^74 + 2*z^73 + z^72 + 2*z^71 + 2*z^70 + 2*z^69 + 2*z^68 + z^67 +
z^66 + z^65 + 2*z^64 + 2*z^63 + z^62 + z^61 + 2*z^60 + z^59 + 2*z^58 + z^57 + 2*z^56 + z
```

$$\begin{aligned}
&{}^{\wedge}55 + z^{\wedge}54 + z^{\wedge}53 + 2{*}z^{\wedge}52 + 2{*}z^{\wedge}51 + 2{*}z^{\wedge}50 + z^{\wedge}49 + 2{*}z^{\wedge}48 + z^{\wedge}47 + z^{\wedge}46 + z^{\wedge}45 + 2{*}z^{\wedge} \\
&44 + z^{\wedge}43 + 2{*}z^{\wedge}42 + 2{*}z^{\wedge}41 + z^{\wedge}40 + z^{\wedge}39 + z^{\wedge}38 + 2{*}z^{\wedge}37 + z^{\wedge}36 + 2{*}z^{\wedge}35 + 2{*}z^{\wedge}34 + 2{*}z \\
&{}^{\wedge}33 + z^{\wedge}32 + 2{*}z^{\wedge}31 + 2{*}z^{\wedge}30 + 2{*}z^{\wedge}29 + z^{\wedge}28 + z^{\wedge}27 + z^{\wedge}26 + 2{*}z^{\wedge}25 + 2{*}z^{\wedge}24 + z^{\wedge}23 + z^{\wedge} \\
&22 + z^{\wedge}21 + 2{*}z^{\wedge}20 + 2{*}z^{\wedge}19 + 2{*}z^{\wedge}18 + 2{*}z^{\wedge}17 + z^{\wedge}16 + z^{\wedge}15 + z^{\wedge}14 + z^{\wedge}13 + z^{\wedge}12 + z^{\wedge}11 \\
&+ 2{*}z^{\wedge}10 + 2{*}z^{\wedge}9 + z^{\wedge}8 + z^{\wedge}7 + 2{*}z^{\wedge}6 + 2{*}z^{\wedge}5 + z^{\wedge}4 + z^{\wedge}3 + 2{*}z^{\wedge}2 + 2{*}z + 2]
\end{aligned}$$

$$\begin{aligned}
[\quad& 2{*}z^{\wedge}255 + z^{\wedge}254 + z^{\wedge}253 + z^{\wedge}252 + z^{\wedge}251 + 2{*}z^{\wedge}250 + z^{\wedge}249 + 2 \\
&{*}z^{\wedge}248 + z^{\wedge}247 + z^{\wedge}246 + z^{\wedge}245 + z^{\wedge}244 + z^{\wedge}243 + z^{\wedge}242 + 2{*}z^{\wedge}241 + z^{\wedge}240 + z^{\wedge}239 + z^{\wedge}238 \\
&+ 2{*}z^{\wedge}237 + 2{*}z^{\wedge}236 + 2{*}z^{\wedge}235 + 2{*}z^{\wedge}234 + 2{*}z^{\wedge}233 + 2{*}z^{\wedge}232 + 2{*}z^{\wedge}231 + 2{*}z^{\wedge}230 + z^{\wedge}229 + \\
&z^{\wedge}228 + z^{\wedge}227 + 2{*}z^{\wedge}226 + z^{\wedge}225 + 2{*}z^{\wedge}224 + 2{*}z^{\wedge}223 + z^{\wedge}222 + z^{\wedge}221 + z^{\wedge}220 + 2{*}z^{\wedge}219 + z \\
&{}^{\wedge}218 + 2{*}z^{\wedge}217 + z^{\wedge}216 + 2{*}z^{\wedge}215 + 2{*}z^{\wedge}214 + z^{\wedge}213 + 2{*}z^{\wedge}212 + z^{\wedge}211 + z^{\wedge}210 + z^{\wedge}209 + 2{*} \\
&z^{\wedge}208 + z^{\wedge}207 + z^{\wedge}206 + z^{\wedge}205 + 2{*}z^{\wedge}204 + z^{\wedge}203 + z^{\wedge}202 + 2{*}z^{\wedge}201 + z^{\wedge}200 + z^{\wedge}199 + z^{\wedge}19 \\
&8 + 2{*}z^{\wedge}197 + z^{\wedge}196 + z^{\wedge}195 + z^{\wedge}194 + 2{*}z^{\wedge}193 + 2{*}z^{\wedge}192 + 2{*}z^{\wedge}191 + 2{*}z^{\wedge}190 + 2{*}z^{\wedge}189 + 2 \\
&{*}z^{\wedge}188 + z^{\wedge}187 + 2{*}z^{\wedge}186 + z^{\wedge}185 + z^{\wedge}184 + 2{*}z^{\wedge}183 + z^{\wedge}182 + 2{*}z^{\wedge}181 + z^{\wedge}180 + 2{*}z^{\wedge}179 + \\
&z^{\wedge}178 + 2{*}z^{\wedge}177 + 2{*}z^{\wedge}176 + z^{\wedge}175 + z^{\wedge}174 + 2{*}z^{\wedge}173 + z^{\wedge}172 + z^{\wedge}171 + z^{\wedge}170 + 2{*}z^{\wedge}169 + z \\
&{}^{\wedge}168 + 2{*}z^{\wedge}167 + z^{\wedge}166 + 2{*}z^{\wedge}165 + z^{\wedge}164 + z^{\wedge}163 + 2{*}z^{\wedge}162 + 2{*}z^{\wedge}161 + 2{*}z^{\wedge}160 + z^{\wedge}159 + \\
&2{*}z^{\wedge}158 + z^{\wedge}157 + 2{*}z^{\wedge}156 + z^{\wedge}155 + z^{\wedge}154 + 2{*}z^{\wedge}153 + 2{*}z^{\wedge}152 + 2{*}z^{\wedge}151 + 2{*}z^{\wedge}150 + 2{*}z^{\wedge}1 \\
&49 + 2{*}z^{\wedge}148 + z^{\wedge}147 + z^{\wedge}146 + z^{\wedge}145 + 2{*}z^{\wedge}144 + 2{*}z^{\wedge}143 + z^{\wedge}142 + 2{*}z^{\wedge}141 + 2{*}z^{\wedge}140 + z^{\wedge} \\
&139 + z^{\wedge}138 + 2{*}z^{\wedge}137 + 2{*}z^{\wedge}136 + z^{\wedge}135 + 2{*}z^{\wedge}134 + 2{*}z^{\wedge}133 + 2{*}z^{\wedge}132 + z^{\wedge}131 + z^{\wedge}130 + 2 \\
&{*}z^{\wedge}129 + 2{*}z^{\wedge}128 + 2{*}z^{\wedge}127 + z^{\wedge}126 + z^{\wedge}125 + z^{\wedge}124 + z^{\wedge}123 + 2{*}z^{\wedge}122 + z^{\wedge}121 + 2{*}z^{\wedge}120 + \\
&z^{\wedge}119 + 2{*}z^{\wedge}118 + 2{*}z^{\wedge}117 + z^{\wedge}116 + z^{\wedge}115 + z^{\wedge}114 + 2{*}z^{\wedge}113 + 2{*}z^{\wedge}112 + z^{\wedge}111 + 2{*}z^{\wedge}110 + \\
&z^{\wedge}109 + 2{*}z^{\wedge}108 + z^{\wedge}107 + 2{*}z^{\wedge}106 + 2{*}z^{\wedge}105 + 2{*}z^{\wedge}104 + 2{*}z^{\wedge}103 + z^{\wedge}102 + z^{\wedge}101 + 2{*}z^{\wedge}100 \\
&+ z^{\wedge}99 + z^{\wedge}98 + z^{\wedge}97 + 2{*}z^{\wedge}96 + z^{\wedge}95 + 2{*}z^{\wedge}94 + z^{\wedge}93 + 2{*}z^{\wedge}92 + 2{*}z^{\wedge}91 + 2{*}z^{\wedge}90 + 2{*}z^{\wedge}89 \\
&+ 2{*}z^{\wedge}88 + z^{\wedge}87 + 2{*}z^{\wedge}86 + 2{*}z^{\wedge}85 + z^{\wedge}84 + z^{\wedge}83 + 2{*}z^{\wedge}82 + z^{\wedge}81 + z^{\wedge}80 + 2{*}z^{\wedge}79 + 2{*}z^{\wedge}78 \\
&+ z^{\wedge}77 + 2{*}z^{\wedge}76 + z^{\wedge}75 + z^{\wedge}74 + z^{\wedge}73 + z^{\wedge}72 + 2{*}z^{\wedge}71 + z^{\wedge}70 + 2{*}z^{\wedge}69 + z^{\wedge}68 + 2{*}z^{\wedge}67 + 2 \\
&{*}z^{\wedge}66 + 2{*}z^{\wedge}65 + 2{*}z^{\wedge}64 + 2{*}z^{\wedge}63 + z^{\wedge}62 + 2{*}z^{\wedge}61 + 2{*}z^{\wedge}60 + 2{*}z^{\wedge}59 + z^{\wedge}58 + 2{*}z^{\wedge}57 + z^{\wedge}5 \\
&6 + z^{\wedge}55 + 2{*}z^{\wedge}54 + z^{\wedge}53 + 2{*}z^{\wedge}52 + z^{\wedge}51 + 2{*}z^{\wedge}50 + 2{*}z^{\wedge}49 + z^{\wedge}48 + 2{*}z^{\wedge}47 + 2{*}z^{\wedge}46 + z^{\wedge} \\
&45 + 2{*}z^{\wedge}44 + z^{\wedge}43 + z^{\wedge}42 + 2{*}z^{\wedge}41 + z^{\wedge}40 + 2{*}z^{\wedge}39 + 2{*}z^{\wedge}38 + z^{\wedge}37 + z^{\wedge}36 + z^{\wedge}35 + 2{*}z^{\wedge}3 \\
&4 + 2{*}z^{\wedge}33 + 2{*}z^{\wedge}32 + 2{*}z^{\wedge}31 + z^{\wedge}30 + z^{\wedge}29 + 2{*}z^{\wedge}28 + z^{\wedge}27 + 2{*}z^{\wedge}26 + z^{\wedge}25 + z^{\wedge}24 + z^{\wedge}23 \\
&+ 2{*}z^{\wedge}22 + z^{\wedge}21 + z^{\wedge}20 + 2{*}z^{\wedge}19 + z^{\wedge}18 + 2{*}z^{\wedge}17 + 2{*}z^{\wedge}16 + z^{\wedge}15 + z^{\wedge}14 + 2{*}z^{\wedge}13 + 2{*}z^{\wedge}12 \\
&+ z^{\wedge}11 + 2{*}z^{\wedge}10 + z^{\wedge}9 + 2{*}z^{\wedge}8 + 2{*}z^{\wedge}7 + z^{\wedge}6 + z^{\wedge}5 + 2{*}z^{\wedge}4 + z^{\wedge}3 + z^{\wedge}2 + z + 2]
\end{aligned}$$

$$\begin{aligned}
[\quad& 2{*}z^{\wedge}255 + z^{\wedge}254 + z^{\wedge}253 + 2{*}z^{\wedge}252 + z^{\wedge}251 + 2{*}z^{\wedge}250 + z^{\wedge}2 \\
&49 + z^{\wedge}248 + z^{\wedge}247 + 2{*}z^{\wedge}246 + 2{*}z^{\wedge}245 + z^{\wedge}244 + 2{*}z^{\wedge}243 + 2{*}z^{\wedge}242 + 2{*}z^{\wedge}241 + z^{\wedge}240 + z^{\wedge} \\
&239 + 2{*}z^{\wedge}238 + z^{\wedge}237 + 2{*}z^{\wedge}236 + 2{*}z^{\wedge}235 + 2{*}z^{\wedge}234 + z^{\wedge}233 + z^{\wedge}232 + 2{*}z^{\wedge}231 + 2{*}z^{\wedge}230 + \\
&2{*}z^{\wedge}229 + 2{*}z^{\wedge}228 + z^{\wedge}227 + 2{*}z^{\wedge}226 + 2{*}z^{\wedge}225 + z^{\wedge}224 + 2{*}z^{\wedge}223 + z^{\wedge}222 + 2{*}z^{\wedge}221 + 2{*}z^{\wedge}2 \\
&20 + 2{*}z^{\wedge}219 + 2{*}z^{\wedge}218 + z^{\wedge}217 + z^{\wedge}216 + z^{\wedge}215 + 2{*}z^{\wedge}214 + z^{\wedge}213 + 2{*}z^{\wedge}212 + z^{\wedge}211 + 2{*}z^{\wedge} \\
&210 + 2{*}z^{\wedge}209 + z^{\wedge}208 + z^{\wedge}207 + 2{*}z^{\wedge}206 + z^{\wedge}205 + 2{*}z^{\wedge}204 + z^{\wedge}203 + z^{\wedge}202 + 2{*}z^{\wedge}201 + 2{*}z \\
&{}^{\wedge}200 + 2{*}z^{\wedge}199 + z^{\wedge}198 + z^{\wedge}197 + 2{*}z^{\wedge}196 + z^{\wedge}195 + 2{*}z^{\wedge}194 + z^{\wedge}193 + z^{\wedge}192 + z^{\wedge}191 + 2{*}z^{\wedge} \\
&190 + 2{*}z^{\wedge}189 + 2{*}z^{\wedge}188 + 2{*}z^{\wedge}187 + z^{\wedge}186 + 2{*}z^{\wedge}185 + z^{\wedge}184 + z^{\wedge}183 + z^{\wedge}182 + 2{*}z^{\wedge}181 + 2 \\
&{*}z^{\wedge}180 + z^{\wedge}179 + 2{*}z^{\wedge}178 + z^{\wedge}177 + 2{*}z^{\wedge}176 + 2{*}z^{\wedge}175 + 2{*}z^{\wedge}174 + 2{*}z^{\wedge}173 + 2{*}z^{\wedge}172 + z^{\wedge}17 \\
&1 + 2{*}z^{\wedge}170 + z^{\wedge}169 + 2{*}z^{\wedge}168 + 2{*}z^{\wedge}167 + 2{*}z^{\wedge}166 + z^{\wedge}165 + z^{\wedge}164 + 2{*}z^{\wedge}163 + z^{\wedge}162 + z^{\wedge}1 \\
&61 + 2{*}z^{\wedge}160 + 2{*}z^{\wedge}159 + z^{\wedge}158 + 2{*}z^{\wedge}157 + z^{\wedge}156 + 2{*}z^{\wedge}155 + z^{\wedge}154 + z^{\wedge}153 + 2{*}z^{\wedge}152 + 2{*} \\
&z^{\wedge}151 + z^{\wedge}150 + z^{\wedge}149 + z^{\wedge}148 + z^{\wedge}147 + z^{\wedge}146 + 2{*}z^{\wedge}145 + 2{*}z^{\wedge}144 + z^{\wedge}143 + 2{*}z^{\wedge}142 + z^{\wedge}1 \\
&41 + 2{*}z^{\wedge}140 + z^{\wedge}139 + z^{\wedge}138 + 2{*}z^{\wedge}137 + 2{*}z^{\wedge}136 + z^{\wedge}135 + z^{\wedge}134 + z^{\wedge}133 + 2{*}z^{\wedge}132 + z^{\wedge}13 \\
&1 + z^{\wedge}130 + z^{\wedge}129 + 2{*}z^{\wedge}128 + z^{\wedge}127 + 2{*}z^{\wedge}126 + z^{\wedge}125 + z^{\wedge}124 + 2{*}z^{\wedge}123 + 2{*}z^{\wedge}122 + z^{\wedge}121 \\
&+ z^{\wedge}120 + z^{\wedge}119 + 2{*}z^{\wedge}118 + 2{*}z^{\wedge}117 + 2{*}z^{\wedge}116 + 2{*}z^{\wedge}115 + z^{\wedge}114 + 2{*}z^{\wedge}113 + z^{\wedge}112 + 2{*}z^{\wedge}1 \\
&11 + 2{*}z^{\wedge}110 + 2{*}z^{\wedge}109 + 2{*}z^{\wedge}108 + z^{\wedge}107 + 2{*}z^{\wedge}106 + 2{*}z^{\wedge}105 + z^{\wedge}104 + 2{*}z^{\wedge}103 + z^{\wedge}102 + \\
&z^{\wedge}101 + z^{\wedge}100 + 2{*}z^{\wedge}99 + 2{*}z^{\wedge}98 + z^{\wedge}97 + z^{\wedge}96 + 2{*}z^{\wedge}95 + z^{\wedge}94 + 2{*}z^{\wedge}93 + z^{\wedge}92 + 2{*}z^{\wedge}91 + \\
&z^{\wedge}90 + 2{*}z^{\wedge}89 + 2{*}z^{\wedge}88 + 2{*}z^{\wedge}87 + 2{*}z^{\wedge}86 + 2{*}z^{\wedge}85 + 2{*}z^{\wedge}84 + 2{*}z^{\wedge}83 + z^{\wedge}82 + z^{\wedge}81 + z^{\wedge}80 \\
&+ z^{\wedge}79 + 2{*}z^{\wedge}78 + 2{*}z^{\wedge}77 + 2{*}z^{\wedge}76 + 2{*}z^{\wedge}75 + 2{*}z^{\wedge}74 + z^{\wedge}73 + z^{\wedge}72 + 2{*}z^{\wedge}71 + z^{\wedge}70 + z^{\wedge}69 \\
&+ z^{\wedge}68 + z^{\wedge}67 + 2{*}z^{\wedge}66 + 2{*}z^{\wedge}65 + 2{*}z^{\wedge}64 + 2{*}z^{\wedge}63 + z^{\wedge}62 + z^{\wedge}61 + z^{\wedge}60 + 2{*}z^{\wedge}59 + z^{\wedge}58 + \\
&z^{\wedge}57 + 2{*}z^{\wedge}56 + z^{\wedge}55 + z^{\wedge}54 + z^{\wedge}53 + z^{\wedge}52 + 2{*}z^{\wedge}51 + 2{*}z^{\wedge}50 + z^{\wedge}49 + z^{\wedge}48 + z^{\wedge}47 + 2{*}z^{\wedge}4 \\
&6 + 2{*}z^{\wedge}45 + z^{\wedge}44 + z^{\wedge}43 + z^{\wedge}42 + z^{\wedge}41 + z^{\wedge}40 + z^{\wedge}39 + 2{*}z^{\wedge}38 + 2{*}z^{\wedge}37 + 2{*}z^{\wedge}36 + 2{*}z^{\wedge}35 \\
&+ z^{\wedge}34 + z^{\wedge}33 + z^{\wedge}32 + z^{\wedge}31 + 2{*}z^{\wedge}30 + 2{*}z^{\wedge}29 + z^{\wedge}28 + 2{*}z^{\wedge}27 + z^{\wedge}26 + z^{\wedge}25 + 2{*}z^{\wedge}24 + 2 \\
&{*}z^{\wedge}23 + 2{*}z^{\wedge}22 + z^{\wedge}21 + z^{\wedge}20 + z^{\wedge}19 + z^{\wedge}18 + z^{\wedge}17 + 2{*}z^{\wedge}16 + z^{\wedge}15 + 2{*}z^{\wedge}14 + 2{*}z^{\wedge}13 + z^{\wedge} \\
&12 + z^{\wedge}11 + z^{\wedge}10 + z^{\wedge}9 + z^{\wedge}8 + 2{*}z^{\wedge}7 + z^{\wedge}6 + z^{\wedge}5 + z^{\wedge}4 + z^{\wedge}3 + 2{*}z^{\wedge}2 + z + 1]
\end{aligned}$$

$$\begin{aligned}
[\quad& 2{*}z^{\wedge}255 + 2{*}z^{\wedge}254 + 2{*}z^{\wedge}253 + z^{\wedge}252 + 2{*}z^{\wedge}251 + 2{*}z^{\wedge}250 + 2{*}z^{\wedge}249 \\
&+ 2{*}z^{\wedge}248 + z^{\wedge}247 + z^{\wedge}246 + z^{\wedge}245 + 2{*}z^{\wedge}244 + z^{\wedge}243 + 2{*}z^{\wedge}242 + z^{\wedge}241 + z^{\wedge}240 + 2{*}z^{\wedge}239 + \\
&z^{\wedge}238 + 2{*}z^{\wedge}237 + 2{*}z^{\wedge}236 + 2{*}z^{\wedge}235 + 2{*}z^{\wedge}234 + 2{*}z^{\wedge}233 + 2{*}z^{\wedge}232 + z^{\wedge}231 + z^{\wedge}230 + 2{*}z^{\wedge}2 \\
&29 + z^{\wedge}228 + 2{*}z^{\wedge}227 + 2{*}z^{\wedge}226 + 2{*}z^{\wedge}225 + z^{\wedge}224 + z^{\wedge}223 + 2{*}z^{\wedge}222 + z^{\wedge}221 + z^{\wedge}220 + 2{*}z^{\wedge} \\
&219 + z^{\wedge}218 + 2{*}z^{\wedge}217 + z^{\wedge}216 + 2{*}z^{\wedge}215 + 2{*}z^{\wedge}214 + 2{*}z^{\wedge}213 + 2{*}z^{\wedge}212 + 2{*}z^{\wedge}211 + z^{\wedge}210 + \\
&z^{\wedge}209 + 2{*}z^{\wedge}208 + 2{*}z^{\wedge}207 + z^{\wedge}206 + z^{\wedge}205 + z^{\wedge}204 + z^{\wedge}203 + z^{\wedge}202 + 2{*}z^{\wedge}201 + z^{\wedge}200 + 2{*}z \\
&{}^{\wedge}199 + z^{\wedge}198 + z^{\wedge}197 + 2{*}z^{\wedge}196 + 2{*}z^{\wedge}195 + 2{*}z^{\wedge}194 + z^{\wedge}193 + 2{*}z^{\wedge}192 + z^{\wedge}191 + 2{*}z^{\wedge}190 + \\
&2{*}z^{\wedge}189 + z^{\wedge}188 + 2{*}z^{\wedge}187 + z^{\wedge}186 + 2{*}z^{\wedge}185 + 2{*}z^{\wedge}184 + z^{\wedge}183 + z^{\wedge}182 + z^{\wedge}181 + 2{*}z^{\wedge}180 + \\
&2{*}z^{\wedge}179 + 2{*}z^{\wedge}178 + z^{\wedge}177 + z^{\wedge}176 + 2{*}z^{\wedge}175 + 2{*}z^{\wedge}174 + z^{\wedge}173 + 2{*}z^{\wedge}172 + z^{\wedge}171 + 2{*}z^{\wedge}170 \\
&+ 2{*}z^{\wedge}169 + z^{\wedge}168 + z^{\wedge}167 + z^{\wedge}166 + z^{\wedge}165 + z^{\wedge}164 + 2{*}z^{\wedge}163 + 2{*}z^{\wedge}162 + z^{\wedge}161 + 2{*}z^{\wedge}160 + \\
&z^{\wedge}159 + z^{\wedge}158 + z^{\wedge}157 + z^{\wedge}156 + 2{*}z^{\wedge}155 + z^{\wedge}154 + 2{*}z^{\wedge}153 + z^{\wedge}152 + 2{*}z^{\wedge}151 + 2{*}z^{\wedge}150 + 2 \\
&{*}z^{\wedge}149 + 2{*}z^{\wedge}148 + 2{*}z^{\wedge}147 + z^{\wedge}146 + z^{\wedge}145 + 2{*}z^{\wedge}144 + 2{*}z^{\wedge}143 + 2{*}z^{\wedge}142 + 2{*}z^{\wedge}141 + 2{*}z^{\wedge} \\
&140 + z^{\wedge}139 + 2{*}z^{\wedge}138 + 2{*}z^{\wedge}137 + 2{*}z^{\wedge}136 + 2{*}z^{\wedge}135 + z^{\wedge}134 + 2{*}z^{\wedge}133 + 2{*}z^{\wedge}132 + z^{\wedge}131 + \\
&z^{\wedge}130 + z^{\wedge}129 + z^{\wedge}128 + z^{\wedge}127 + 2{*}z^{\wedge}126 + z^{\wedge}125 + 2{*}z^{\wedge}124 + z^{\wedge}123 + 2{*}z^{\wedge}122 + z^{\wedge}121 + 2{*}z \\
&{}^{\wedge}120 + 2{*}z^{\wedge}119 + z^{\wedge}118 + 2{*}z^{\wedge}117 + z^{\wedge}116 + z^{\wedge}115 + z^{\wedge}114 + z^{\wedge}113 + 2{*}z^{\wedge}112 + 2{*}z^{\wedge}111 + 2{*} \\
&z^{\wedge}110 + z^{\wedge}109 + z^{\wedge}108 + z^{\wedge}107 + 2{*}z^{\wedge}106 + 2{*}z^{\wedge}105 + z^{\wedge}104 + 2{*}z^{\wedge}103 + z^{\wedge}102 + z^{\wedge}101 + z^{\wedge}1 \\
&00 + z^{\wedge}99 + z^{\wedge}98 + 2{*}z^{\wedge}97 + 2{*}z^{\wedge}96 + 2{*}z^{\wedge}95 + z^{\wedge}94 + z^{\wedge}93 + 2{*}z^{\wedge}92 + z^{\wedge}91 + 2{*}z^{\wedge}90 + 2{*}z
\end{aligned}$$

^89 + 2*z^88 + 2*z^87 + 2*z^86 + 2*z^85 + 2*z^84 + 2*z^83 + 2*z^82 + z^81 + z^80 + z^79
+ 2*z^78 + z^77 + 2*z^76 + z^75 + 2*z^74 + 2*z^73 + z^72 + 2*z^71 + z^70 + 2*z^69 + z^68
+ z^67 + z^66 + z^65 + 2*z^64 + 2*z^63 + 2*z^62 + z^61 + z^60 + z^59 + 2*z^58 + 2*z^57 +
z^56 + 2*z^55 + 2*z^54 + z^53 + z^52 + z^51 + z^50 + 2*z^49 + z^48 + z^47 + z^46 + 2*z^4
5 + 2*z^44 + 2*z^43 + z^42 + z^41 + z^40 + 2*z^39 + z^38 + 2*z^37 + 2*z^36 + z^35 + 2*z^
34 + z^33 + 2*z^32 + 2*z^31 + 2*z^30 + z^29 + z^28 + z^27 + z^26 + z^25 + z^24 + z^23 +
z^22 + z^21 + z^20 + z^19 + 2*z^18 + z^17 + 2*z^16 + z^15 + z^14 + 2*z^13 + z^12 + z^11
+ 2*z^10 + 2*z^9 + z^8 + 2*z^7 + z^6 + z^5 + 2*z^4 + 2*z^3 + 2*z^2 + z + 1]
[z^255 + 2*z^254 + 2*z^253 + z^252 + z^2
51 + z^250 + 2*z^249 + z^248 + z^247 + z^246 + 2*z^245 + 2*z^244 + 2*z^243 + 2*z^242 + z^
241 + 2*z^240 + 2*z^239 + z^238 + z^237 + z^236 + 2*z^235 + 2*z^234 + 2*z^233 + z^232 + z
^231 + 2*z^230 + 2*z^229 + z^228 + 2*z^227 + z^226 + 2*z^225 + z^224 + 2*z^223 + 2*z^222
+ z^221 + 2*z^220 + 2*z^219 + z^218 + z^217 + z^216 + z^215 + 2*z^214 + z^213 + z^212 +
z^211 + 2*z^210 + z^209 + 2*z^208 + z^207 + 2*z^206 + 2*z^205 + z^204 + z^203 + 2*z^202 +
z^201 + z^200 + 2*z^199 + z^198 + 2*z^197 + 2*z^196 + 2*z^195 + 2*z^194 + 2*z^193 + z^192
+ z^191 + z^190 + z^189 + z^188 + z^187 + z^186 + 2*z^185 + 2*z^184 + 2*z^183 + 2*z^182 +
2*z^181 + z^180 + z^179 + z^178 + 2*z^177 + 2*z^176 + 2*z^175 + z^174 + z^173 + z^172 +
z^171 + 2*z^170 + z^169 + z^168 + 2*z^167 + z^166 + 2*z^165 + z^164 + z^163 + z^162 + z^1
61 + z^160 + 2*z^159 + 2*z^158 + z^157 + 2*z^156 + z^155 + 2*z^154 + z^153 + z^152 + z^15
1 + 2*z^150 + 2*z^149 + 2*z^148 + z^147 + 2*z^146 + 2*z^145 + z^144 + z^143 + z^142 + 2*z
^141 + 2*z^140 + z^139 + 2*z^138 + 2*z^137 + 2*z^136 + 2*z^135 + z^134 + 2*z^133 + 2*z^13
2 + z^131 + z^130 + z^129 + 2*z^128 + z^127 + z^126 + 2*z^125 + z^124 + 2*z^123 + z^122
+ z^121 + 2*z^120 + 2*z^119 + 2*z^118 + z^117 + z^116 + z^115 + z^114 + z^113 + 2*z^112 +
z^111 + z^110 + z^109 + 2*z^108 + 2*z^107 + 2*z^106 + 2*z^105 + 2*z^104 + z^103 + 2*z^102
+ z^101 + 2*z^100 + 2*z^99 + z^98 + 2*z^97 + 2*z^96 + 2*z^95 + 2*z^94 + z^93 + 2*z^92 +
2*z^91 + z^90 + z^89 + z^88 + z^87 + z^86 + 2*z^85 + 2*z^84 + z^83 + 2*z^82 + z^81 + z^8
0 + 2*z^79 + z^78 + z^77 + z^76 + 2*z^75 + 2*z^74 + 2*z^73 + 2*z^72 + z^71 + z^70 + 2*z^
69 + 2*z^68 + z^67 + z^66 + 2*z^65 + z^64 + 2*z^63 + z^62 + z^61 + z^60 + 2*z^59 + z^58
+ 2*z^57 + z^56 + z^55 + 2*z^54 + 2*z^53 + 2*z^52 + 2*z^51 + z^50 + z^49 + z^48 + z^47 +
z^46 + z^45 + 2*z^44 + z^43 + z^42 + z^41 + 2*z^40 + z^39 + z^38 + 2*z^37 + z^36 + z^35
+ 2*z^34 + z^33 + z^32 + 2*z^31 + z^30 + z^29 + 2*z^28 + 2*z^27 + 2*z^26 + 2*z^25 + z^24
+ 2*z^23 + 2*z^22 + z^21 + z^20 + z^19 + z^18 + 2*z^17 + 2*z^16 + 2*z^15 + z^14 + z^13 +
z^12 + z^11 + 2*z^10 + z^9 + z^8 + z^7 + z^6 + z^5 + z^4 + z^3 + 2*z^2 + z + 1]
[2*z^255 + z^254 + z^253 + 2*z^252 + 2*z^251 + 2*z^250 + z^249 + z^248 + 2*z
^247 + z^246 + z^245 + 2*z^244 + z^243 + 2*z^242 + 2*z^241 + 2*z^240 + z^239 + 2*z^238 +
2*z^237 + 2*z^236 + z^235 + z^234 + 2*z^233 + z^232 + z^231 + 2*z^230 + z^229 + 2*z^228 +
2*z^227 + 2*z^226 + 2*z^225 + z^224 + z^223 + z^222 + z^221 + 2*z^220 + 2*z^219 + z^218 +
2*z^217 + 2*z^216 + 2*z^215 + z^214 + 2*z^213 + z^212 + z^211 + z^210 + z^209 + z^208 +
2*z^207 + z^206 + z^205 + 2*z^204 + 2*z^203 + 2*z^202 + 2*z^201 + 2*z^200 + 2*z^199 + z^1
98 + 2*z^197 + 2*z^196 + z^195 + z^194 + z^193 + z^192 + z^191 + 2*z^190 + 2*z^189 + 2*z^
188 + 2*z^187 + z^186 + 2*z^185 + 2*z^184 + 2*z^183 + 2*z^182 + 2*z^181 + 2*z^180 + 2*z^1
79 + z^178 + 2*z^177 + z^176 + 2*z^175 + z^174 + z^173 + 2*z^172 + 2*z^171 + z^170 + z^16
9 + z^168 + z^167 + 2*z^166 + 2*z^165 + 2*z^164 + z^163 + 2*z^162 + z^161 + 2*z^160 + z^1
59 + z^158 + 2*z^157 + 2*z^156 + 2*z^155 + 2*z^154 + 2*z^153 + 2*z^152 + z^151 + z^150 +
2*z^149 + 2*z^148 + 2*z^147 + z^146 + z^145 + z^144 + z^143 + z^142 + z^141 + 2*z^140 +
2*z^139 + z^138 + 2*z^137 + z^136 + 2*z^135 + 2*z^134 + z^133 + 2*z^132 + z^131 + z^130 +
2*z^129 + z^128 + z^127 + z^126 + z^125 + 2*z^124 + z^123 + 2*z^122 + 2*z^121 + z^120 +
z^119 + z^118 + 2*z^117 + z^116 + 2*z^115 + 2*z^114 + z^113 + 2*z^112 + z^111 + z^110 + z
^109 + 2*z^108 + z^107 + 2*z^106 + z^105 + 2*z^104 + 2*z^103 + 2*z^102 + 2*z^101 + 2*z^10
0 + 2*z^99 + z^98 + 2*z^97 + 2*z^96 + z^95 + 2*z^94 + z^93 + 2*z^92 + z^91 + z^90 + z^89
+ z^88 + z^87 + z^86 + 2*z^85 + z^84 + 2*z^83 + 2*z^82 + 2*z^81 + 2*z^80 + 2*z^79 + z^78
+ z^77 + z^76 + z^75 + 2*z^74 + z^73 + 2*z^72 + z^71 + 2*z^70 + z^69 + z^68 + 2*z^67 + z
^66 + z^65 + z^64 + z^63 + z^62 + 2*z^61 + z^60 + 2*z^59 + 2*z^58 + 2*z^57 + z^56 + z^55
+ 2*z^54 + z^53 + 2*z^52 + z^51 + 2*z^50 + 2*z^49 + z^48 + z^47 + 2*z^46 + z^45 + z^44 +
2*z^43 + z^42 + z^41 + 2*z^40 + 2*z^39 + 2*z^38 + 2*z^37 + z^36 + 2*z^35 + z^34 + z^33 +
z^32 + 2*z^31 + 2*z^30 + 2*z^29 + 2*z^28 + z^27 + z^26 + z^25 + 2*z^24 + 2*z^23 + z^22 +
z^21 + z^20 + 2*z^19 + 2*z^18 + 2*z^17 + 2*z^16 + 2*z^15 + 2*z^14 + 2*z^13 + 2*z^12 + z^
11 + z^10 + 2*z^9 + z^8 + 2*z^7 + z^6 + 2*z^5 + z^4 + 2*z^3 + 2*z^2 + 2*z + 1]
[2*z^255 + z^254 + 2*z^253 + 2*z^252 + z^251 + 2*z^250 + 2*z^249 + z^248 + 2*z^247 + z^24
6 + 2*z^245 + z^244 + 2*z^243 + 2*z^242 + z^241 + 2*z^240 + z^239 + z^238 + 2*z^237 + z^2
36 + 2*z^235 + 2*z^234 + 2*z^233 + z^232 + 2*z^231 + 2*z^230 + z^229 + z^228 + 2*z^227 +
z^226 + 2*z^225 + z^224 + z^223 + 2*z^222 + z^221 + 2*z^220 + 2*z^219 + 2*z^218 + 2*z^217 +
2*z^216 + 2*z^215 + z^214 + z^213 + z^212 + z^211 + 2*z^210 + 2*z^209 + 2*z^208 + z^207 +
z^206 + 2*z^205 + 2*z^204 + 2*z^203 + 2*z^202 + 2*z^201 + 2*z^200 + z^199 + 2*z^198 + z^1
97 + 2*z^196 + z^195 + z^194 + z^193 + z^192 + 2*z^191 + z^190 + 2*z^189 + 2*z^188 + z^18
7 + 2*z^186 + 2*z^185 + z^184 + 2*z^183 + z^182 + z^181 + z^180 + 2*z^179 + 2*z^178 + 2*z
^177 + z^176 + z^175 + z^174 + 2*z^173 + z^172 + 2*z^171 + 2*z^170 + 2*z^169 + 2*z^168 +
z^167 + 2*z^166 + 2*z^165 + z^164 + z^163 + 2*z^162 + z^161 + z^160 + z^159 + 2*z^158 + 2
*z^157 + 2*z^156 + z^155 + 2*z^154 + 2*z^153 + 2*z^152 + 2*z^151 + z^150 + 2*z^149 + 2*z^
148 + z^147 + 2*z^146 + 2*z^145 + 2*z^144 + 2*z^143 + z^142 + z^141 + 2*z^140 + z^139 + 2
*z^138 + z^137 + z^136 + z^135 + 2*z^134 + z^133 + 2*z^132 + 2*z^131 + z^130 + 2*z^129 +
z^128 + 2*z^127 + 2*z^126 + 2*z^125 + z^124 + 2*z^123 + 2*z^122 + 2*z^121 + 2*z^120 + 2*z

^119 + z^118 + z^117 + z^116 + 2*z^115 + 2*z^114 + z^113 + 2*z^112 + 2*z^111 + 2*z^110 + z^109 + z^108 + 2*z^107 + z^106 + 2*z^105 + 2*z^104 + z^103 + 2*z^102 + 2*z^101 + z^100 + 2*z^99 + 2*z^98 + z^97 + 2*z^96 + z^95 + 2*z^94 + 2*z^93 + z^92 + z^91 + z^90 + z^89 + z^88 + 2*z^87 + 2*z^86 + z^85 + z^84 + 2*z^83 + z^82 + z^81 + z^80 + z^79 + z^78 + z^77 + z^76 + 2*z^75 + z^74 + 2*z^73 + 2*z^72 + z^71 + z^70 + 2*z^69 + z^68 + z^67 + 2*z^66 + z^65 + 2*z^64 + z^63 + z^62 + 2*z^61 + 2*z^60 + z^59 + 2*z^58 + z^57 + 2*z^56 + 2*z^55 + 2*z^54 + 2*z^53 + 2*z^52 + z^51 + 2*z^50 + 2*z^49 + z^48 + z^47 + 2*z^46 + 2*z^45 + 2*z^44 + 2*z^43 + z^42 + z^41 + z^40 + z^39 + 2*z^38 + 2*z^37 + z^36 + z^35 + z^34 + 2*z^33 + 2*z^32 + z^31 + 2*z^30 + 2*z^29 + 2*z^28 + 2*z^27 + 2*z^26 + z^25 + z^24 + z^23 + z^22 + z^21 + 2*z^20 + 2*z^19 + z^18 + z^17 + 2*z^16 + 2*z^15 + z^14 + z^13 + z^12 + 2*z^11 + 2*z^10 + 2*z^9 + 2*z^8 + 2*z^7 + z^6 + 2*z^5 + 2*z^4 + z^3 + 2*z^2 + 2*z + 1])