

LAPORAN HASIL ENKRIPSI & DEKRIPSI

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Kelas: Informatika F

PROSES ENKRIPSI EL GAMAL:

Blok 1 - ASCII: 77 (k = 16)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

$$949^{16} \bmod 2579 = 622$$

$$949^{16} \times 77 \bmod 2579$$

$$= 47894 \bmod 2579$$

$$= 1472$$

Hasil Enkripsi Blok 1: ASCII (M) = 77, = 1061, = 1472

Blok 2 - ASCII: 32 (k = 14)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

Menghitung hasil akhir $2^{14} \bmod 2579$:

$$2^{14} \bmod 2579 = [2^8 \bmod 2579] \times [2^4 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (256 \times 16 \times 4) \bmod 2579$$

$$= 16384 \bmod 2579$$

$$= 910$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

Menghitung hasil akhir $949^{14} \bmod 2579$:

$$949^{14} \bmod 2579 = [949^8 \bmod 2579] \times [949^4 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (678 \times 2368 \times 530) \bmod 2579$$

$$= 850917120 \bmod 2579$$

$$= 1860$$

$$949^{14} \bmod 2579 = 1860$$

$$949^{14} \times 32 \bmod 2579$$

$$= 59520 \bmod 2579$$

$$= 203$$

Hasil Enkripsi Blok 2: ASCII (M) = 32, = 910, = 203

Blok 3 - ASCII: 74 (k = 9)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

Menghitung hasil akhir $2^9 \bmod 2579$:

$$2^9 \bmod 2579 = [2^8 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (256 \times 2) \bmod 2579$$

$$= 512 \bmod 2579$$

$$= 512$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

Menghitung hasil akhir $949^9 \bmod 2579$:

$$949^9 \bmod 2579 = [949^8 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (678 \times 949) \bmod 2579$$

$$= 643422 \bmod 2579$$

$$= 1251$$

$$949^9 \bmod 2579 = 1251$$

$$949^9 \times 74 \bmod 2579$$

$$= 92574 \bmod 2579$$

$$= 2309$$

Hasil Enkripsi Blok 3: ASCII (M) = 74, = 512, = 2309

Blok 4 - ASCII: 117 (k = 16)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

$$949^{16} \bmod 2579 = 622$$

$$949^{16} \times 117 \bmod 2579$$

$$= 72774 \bmod 2579$$

$$= 562$$

Hasil Enkripsi Blok 4: ASCII (M) = 117, = 1061, = 562

Blok 5 - ASCII: 97 (k = 45)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

$$2^{32} \bmod 2579 = [2^{16} \bmod 2579] \times [2^{16} \bmod 2579] \bmod 2579$$

$$= (1061 \times 1061) \bmod 2579$$

$$= 1277$$

Menghitung hasil akhir $2^{45} \bmod 2579$:

$$2^{45} \bmod 2579 = [2^{32} \bmod 2579] \times [2^8 \bmod 2579] \times [2^4 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (1277 \times 256 \times 16 \times 2) \bmod 2579$$

$$= 10461184 \bmod 2579$$

$$= 760$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

$$949^{32} \bmod 2579 = [949^{16} \bmod 2579] \times [949^{16} \bmod 2579] \bmod 2579$$

$$= (622 \times 622) \bmod 2579$$

$$= 34$$

Menghitung hasil akhir $949^{45} \bmod 2579$:

$$949^{45} \bmod 2579 = [949^{32} \bmod 2579] \times [949^8 \bmod 2579] \times [949^4 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (34 \times 678 \times 2368 \times 949) \bmod 2579$$

$$= 51803192064 \bmod 2579$$

$$= 246$$

$$949^{45} \bmod 2579 = 246$$

$$949^{45} \times 97 \bmod 2579$$

$$= 23862 \bmod 2579$$

$$= 651$$

Hasil Enkripsi Blok 5: ASCII (M) = 97, = 760, = 651

Blok 6 - ASCII: 110 (k = 41)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

$$2^{32} \bmod 2579 = [2^{16} \bmod 2579] \times [2^{16} \bmod 2579] \bmod 2579$$

$$= (1061 \times 1061) \bmod 2579$$

$$= 1277$$

Menghitung hasil akhir $2^{41} \bmod 2579$:

$$2^{41} \bmod 2579 = [2^{32} \bmod 2579] \times [2^8 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (1277 \times 256 \times 2) \bmod 2579$$

$$= 653824 \bmod 2579$$

$$= 1337$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

$$949^{32} \bmod 2579 = [949^{16} \bmod 2579] \times [949^{16} \bmod 2579] \bmod 2579$$

$$= (622 \times 622) \bmod 2579$$

$$= 34$$

Menghitung hasil akhir $949^{41} \bmod 2579$:

$$\begin{aligned} 949^{41} \bmod 2579 &= [949^{32} \bmod 2579] \times [949^8 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579 \\ &= (34 \times 678 \times 949) \bmod 2579 \\ &= 21876348 \bmod 2579 \\ &= 1270 \end{aligned}$$

$$949^{41} \bmod 2579 = 1270$$

$$949^{41} \times 110 \bmod 2579$$

$$= 139700 \bmod 2579$$

$$= 434$$

Hasil Enkripsi Blok 6: ASCII (M) = 110, = 1337, = 434

Blok 7 - ASCII: 32 (k = 5)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

Menghitung hasil akhir $2^5 \bmod 2579$:

$$2^5 \bmod 2579 = [2^4 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (16 \times 2) \bmod 2579$$

$$= 32 \bmod 2579$$

$$= 32$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

Menghitung hasil akhir $949^5 \bmod 2579$:

$$949^5 \bmod 2579 = [949^4 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (2368 \times 949) \bmod 2579$$

$$= 2247232 \bmod 2579$$

$$= 923$$

$$949^5 \bmod 2579 = 923$$

$$949^5 \times 32 \bmod 2579$$

$$= 29536 \bmod 2579$$

$$= 1167$$

Hasil Enkripsi Blok 7: ASCII (M) = 32, = 32, = 1167

Blok 8 - ASCII: 89 (k = 5)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

Menghitung hasil akhir $2^5 \bmod 2579$:

$$2^5 \bmod 2579 = [2^4 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (16 \times 2) \bmod 2579$$

$$= 32 \bmod 2579$$

$$= 32$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

Menghitung hasil akhir $949^5 \bmod 2579$:

$$949^5 \bmod 2579 = [949^4 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (2368 \times 949) \bmod 2579$$

$$= 2247232 \bmod 2579$$

$$= 923$$

$$949^5 \bmod 2579 = 923$$

$$949^5 \times 89 \bmod 2579$$

$$= 82147 \bmod 2579$$

$$= 2198$$

Hasil Enkripsi Blok 8: ASCII (M) = 89, = 32, = 2198

Blok 9 - ASCII: 97 (k = 37)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

$$2^{32} \bmod 2579 = [2^{16} \bmod 2579] \times [2^{16} \bmod 2579] \bmod 2579$$

$$= (1061 \times 1061) \bmod 2579$$

$$= 1277$$

Menghitung hasil akhir $2^{37} \bmod 2579$:

$$2^{37} \bmod 2579 = [2^{32} \bmod 2579] \times [2^4 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (1277 \times 16 \times 2) \bmod 2579$$

$$= 40864 \bmod 2579$$

$$= 2179$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

$$949^{32} \bmod 2579 = [949^{16} \bmod 2579] \times [949^{16} \bmod 2579] \bmod 2579$$

$$= (622 \times 622) \bmod 2579$$

$$= 34$$

Menghitung hasil akhir $949^{37} \bmod 2579$:

$$949^{37} \bmod 2579 = [949^{32} \bmod 2579] \times [949^4 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (34 \times 2368 \times 949) \bmod 2579$$

$$= 76405888 \bmod 2579$$

$$= 434$$

$$949^{37} \bmod 2579 = 434$$

$$949^{37} \times 97 \bmod 2579$$

$$= 42098 \bmod 2579$$

$$= 834$$

Hasil Enkripsi Blok 9: ASCII (M) = 97, = 2179, = 834

Blok 10 - ASCII: 102 (k = 22)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

Menghitung hasil akhir $2^{22} \bmod 2579$:

$$2^{22} \bmod 2579 = [2^{16} \bmod 2579] \times [2^4 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (1061 \times 16 \times 4) \bmod 2579$$

$$= 67904 \bmod 2579$$

$$= 850$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

Menghitung hasil akhir $949^{22} \bmod 2579$:

$$949^{22} \bmod 2579 = [949^{16} \bmod 2579] \times [949^4 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (622 \times 2368 \times 530) \bmod 2579$$

$$= 780634880 \bmod 2579$$

$$= 2528$$

$$949^{22} \bmod 2579 = 2528$$

$$949^{22} \times 102 \bmod 2579$$

$$= 257856 \bmod 2579$$

$$= 2535$$

Hasil Enkripsi Blok 10: ASCII (M) = 102, = 850, = 2535

Blok 11 - ASCII: 105 (k = 1)

$$2^1 \bmod 2579 = 2$$

$$949^1 \bmod 2579 = 949$$

$$949^1 \bmod 2579 = 949$$

$$949^1 \times 105 \bmod 2579$$

$$= 99645 \bmod 2579$$

$$= 1643$$

Hasil Enkripsi Blok 11: ASCII (M) = 105, = 2, = 1643

Blok 12 - ASCII: 32 (k = 27)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

Menghitung hasil akhir $2^{27} \bmod 2579$:

$$2^{27} \bmod 2579 = [2^{16} \bmod 2579] \times [2^8 \bmod 2579] \times [2^2 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (1061 \times 256 \times 4 \times 2) \bmod 2579$$

$$= 2172928 \bmod 2579$$

$$= 1410$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

Menghitung hasil akhir $949^{27} \bmod 2579$:

$$949^{27} \bmod 2579 = [949^{16} \bmod 2579] \times [949^8 \bmod 2579] \times [949^2 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (622 \times 678 \times 530 \times 949) \bmod 2579$$

$$= 212110496520 \bmod 2579$$

$$= 1928$$

$$949^{27} \bmod 2579 = 1928$$

$$949^{27} \times 32 \bmod 2579$$

$$= 61696 \bmod 2579$$

$$= 2379$$

Hasil Enkripsi Blok 12: ASCII (M) = 32, = 1410, = 2379

Blok 13 - ASCII: 90 (k = 3)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

Menghitung hasil akhir $2^3 \bmod 2579$:

$$2^3 \bmod 2579 = [2^2 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (4 \times 2) \bmod 2579$$

$$= 8 \bmod 2579$$

$$= 8$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

Menghitung hasil akhir $949^3 \bmod 2579$:

$$949^3 \bmod 2579 = [949^2 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (530 \times 949) \bmod 2579$$

$$= 502970 \bmod 2579$$

$$= 65$$

$$949^3 \bmod 2579 = 65$$

$$949^3 \times 90 \bmod 2579$$

$$= 5850 \bmod 2579$$

$$= 692$$

Hasil Enkripsi Blok 13: ASCII (M) = 90, = 8, = 692

Blok 14 - ASCII: 97 (k = 5)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

Menghitung hasil akhir $2^5 \bmod 2579$:

$$2^5 \bmod 2579 = [2^4 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (16 \times 2) \bmod 2579$$

$$= 32 \bmod 2579$$

$$= 32$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

Menghitung hasil akhir $949^5 \bmod 2579$:

$$949^5 \bmod 2579 = [949^4 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (2368 \times 949) \bmod 2579$$

$$= 2247232 \bmod 2579$$

$$= 923$$

$$949^5 \bmod 2579 = 923$$

$$949^5 \times 97 \bmod 2579$$

$$= 89531 \bmod 2579$$

$$= 1845$$

Hasil Enkripsi Blok 14: ASCII (M) = 97, = 32, = 1845

Blok 15 - ASCII: 105 (k = 17)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

Menghitung hasil akhir $2^{17} \bmod 2579$:

$$2^{17} \bmod 2579 = [2^{16} \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (1061 \times 2) \bmod 2579$$

$$= 2122 \bmod 2579$$

$$= 2122$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

Menghitung hasil akhir $949^{17} \bmod 2579$:

$$949^{17} \bmod 2579 = [949^{16} \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (622 \times 949) \bmod 2579$$

$$= 590278 \bmod 2579$$

$$= 2266$$

$$949^{17} \bmod 2579 = 2266$$

$$949^{17} \times 105 \bmod 2579$$

$$= 237930 \bmod 2579$$

$$= 662$$

Hasil Enkripsi Blok 15: ASCII (M) = 105, = 2122, = 662

Blok 16 - ASCII: 109 (k = 34)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

$$2^{32} \bmod 2579 = [2^{16} \bmod 2579] \times [2^{16} \bmod 2579] \bmod 2579$$

$$= (1061 \times 1061) \bmod 2579$$

$$= 1277$$

Menghitung hasil akhir $2^{34} \bmod 2579$:

$$2^{34} \bmod 2579 = [2^{32} \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (1277 \times 4) \bmod 2579$$

$$= 5108 \bmod 2579$$

$$= 2529$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

$$949^{32} \bmod 2579 = [949^{16} \bmod 2579] \times [949^{16} \bmod 2579] \bmod 2579$$

$$= (622 \times 622) \bmod 2579$$

$$= 34$$

Menghitung hasil akhir $949^{34} \bmod 2579$:

$$949^{34} \bmod 2579 = [949^{32} \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (34 \times 530) \bmod 2579$$

$$= 18020 \bmod 2579$$

$$= 2546$$

$$949^{34} \bmod 2579 = 2546$$

$$949^{34} \times 109 \bmod 2579$$

$$= 277514 \bmod 2579$$

$$= 1561$$

Hasil Enkripsi Blok 16: ASCII (M) = 109, = 2529, = 1561

Blok 17 - ASCII: 32 (k = 4)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^4 \bmod 2579 = 2368$$

$$949^4 \times 32 \bmod 2579$$

$$= 75776 \bmod 2579$$

$$= 985$$

Hasil Enkripsi Blok 17: ASCII (M) = 32, = 16, = 985

Blok 18 - ASCII: 87 (k = 50)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

$$2^{32} \bmod 2579 = [2^{16} \bmod 2579] \times [2^{16} \bmod 2579] \bmod 2579$$

$$= (1061 \times 1061) \bmod 2579$$

$$= 1277$$

Menghitung hasil akhir $2^{50} \bmod 2579$:

$$2^{50} \bmod 2579 = [2^{32} \bmod 2579] \times [2^{16} \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (1277 \times 1061 \times 4) \bmod 2579$$

$$= 5419588 \bmod 2579$$

$$= 1109$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

$$949^{32} \bmod 2579 = [949^{16} \bmod 2579] \times [949^{16} \bmod 2579] \bmod 2579$$

$$= (622 \times 622) \bmod 2579$$

$$= 34$$

Menghitung hasil akhir $949^{50} \bmod 2579$:

$$949^{50} \bmod 2579 = [949^{32} \bmod 2579] \times [949^{16} \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (34 \times 622 \times 530) \bmod 2579$$

$$= 11208440 \bmod 2579$$

$$= 106$$

$$949^{50} \bmod 2579 = 106$$

$$949^{50} \times 87 \bmod 2579$$

$$= 9222 \bmod 2579$$

$$= 1485$$

Hasil Enkripsi Blok 18: ASCII (M) = 87, = 1109, = 1485

Blok 19 - ASCII: 105 (k = 38)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

$$2^{32} \bmod 2579 = [2^{16} \bmod 2579] \times [2^{16} \bmod 2579] \bmod 2579$$

$$= (1061 \times 1061) \bmod 2579$$

$$= 1277$$

Menghitung hasil akhir $2^{38} \bmod 2579$:

$$2^{38} \bmod 2579 = [2^{32} \bmod 2579] \times [2^4 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (1277 \times 16 \times 4) \bmod 2579$$

$$= 81728 \bmod 2579$$

$$= 1779$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

$$949^{32} \bmod 2579 = [949^{16} \bmod 2579] \times [949^{16} \bmod 2579] \bmod 2579$$

$$= (622 \times 622) \bmod 2579$$

$$= 34$$

Menghitung hasil akhir $949^{38} \bmod 2579$:

$$949^{38} \bmod 2579 = [949^{32} \bmod 2579] \times [949^4 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (34 \times 2368 \times 530) \bmod 2579$$

$$= 42671360 \bmod 2579$$

$$= 1805$$

$$949^{38} \bmod 2579 = 1805$$

$$949^{38} \times 105 \bmod 2579$$

$$= 189525 \bmod 2579$$

$$= 1258$$

Hasil Enkripsi Blok 19: ASCII (M) = 105, = 1779, = 1258

Blok 20 - ASCII: 98 (k = 29)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

Menghitung hasil akhir $2^{29} \bmod 2579$:

$$2^{29} \bmod 2579 = [2^{16} \bmod 2579] \times [2^8 \bmod 2579] \times [2^4 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (1061 \times 256 \times 16 \times 2) \bmod 2579$$

$$= 8691712 \bmod 2579$$

$$= 482$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

Menghitung hasil akhir $949^{29} \bmod 2579$:

$$949^{29} \bmod 2579 = [949^{16} \bmod 2579] \times [949^8 \bmod 2579] \times [949^4 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (622 \times 678 \times 2368 \times 949) \bmod 2579$$

$$= 947693690112 \bmod 2579$$

$$= 556$$

$$949^{29} \bmod 2579 = 556$$

$$949^{29} \times 98 \bmod 2579$$

$$= 54488 \bmod 2579$$

$$= 329$$

Hasil Enkripsi Blok 20: ASCII (M) = 98, = 482, = 329

Blok 21 - ASCII: 105 (k = 5)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

Menghitung hasil akhir $2^5 \bmod 2579$:

$$2^5 \bmod 2579 = [2^4 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (16 \times 2) \bmod 2579$$

$$= 32 \bmod 2579$$

$$= 32$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

Menghitung hasil akhir $949^5 \bmod 2579$:

$$949^5 \bmod 2579 = [949^4 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (2368 \times 949) \bmod 2579$$

$$= 2247232 \bmod 2579$$

$$= 923$$

$$949^5 \bmod 2579 = 923$$

$$949^5 \times 105 \bmod 2579$$

$$= 96915 \bmod 2579$$

$$= 1492$$

Hasil Enkripsi Blok 21: ASCII (M) = 105, = 32, = 1492

Blok 22 - ASCII: 115 (k = 10)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

Menghitung hasil akhir $2^{10} \bmod 2579$:

$$2^{10} \bmod 2579 = [2^8 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (256 \times 4) \bmod 2579$$

$$= 1024 \bmod 2579$$

$$= 1024$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

Menghitung hasil akhir $949^{10} \bmod 2579$:

$$949^{10} \bmod 2579 = [949^8 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (678 \times 530) \bmod 2579$$

$$= 359340 \bmod 2579$$

$$= 859$$

$$949^{10} \bmod 2579 = 859$$

$$949^{10} \times 115 \bmod 2579$$

$$= 98785 \bmod 2579$$

$$= 783$$

Hasil Enkripsi Blok 22: ASCII (M) = 115, = 1024, = 783

Blok 23 - ASCII: 111 (k = 38)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

$$2^{32} \bmod 2579 = [2^{16} \bmod 2579] \times [2^{16} \bmod 2579] \bmod 2579$$

$$= (1061 \times 1061) \bmod 2579$$

$$= 1277$$

Menghitung hasil akhir $2^{38} \bmod 2579$:

$$2^{38} \bmod 2579 = [2^{32} \bmod 2579] \times [2^4 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (1277 \times 16 \times 4) \bmod 2579$$

$$= 81728 \bmod 2579$$

$$= 1779$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

$$949^{32} \bmod 2579 = [949^{16} \bmod 2579] \times [949^{16} \bmod 2579] \bmod 2579$$

$$= (622 \times 622) \bmod 2579$$

$$= 34$$

Menghitung hasil akhir $949^{38} \bmod 2579$:

$$949^{38} \bmod 2579 = [949^{32} \bmod 2579] \times [949^4 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (34 \times 2368 \times 530) \bmod 2579$$

$$= 42671360 \bmod 2579$$

$$= 1805$$

$$949^{38} \bmod 2579 = 1805$$

$$949^{38} \times 111 \bmod 2579$$

$$= 200355 \bmod 2579$$

$$= 1772$$

Hasil Enkripsi Blok 23: ASCII (M) = 111, = 1779, = 1772

Blok 24 - ASCII: 110 (k = 24)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

Menghitung hasil akhir $2^{24} \bmod 2579$:

$$2^{24} \bmod 2579 = [2^{16} \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (1061 \times 256) \bmod 2579$$

$$= 271616 \bmod 2579$$

$$= 821$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

Menghitung hasil akhir $949^{24} \bmod 2579$:

$$949^{24} \bmod 2579 = [949^{16} \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (622 \times 678) \bmod 2579$$

$$= 421716 \bmod 2579$$

$$= 1339$$

$$949^{24} \bmod 2579 = 1339$$

$$949^{24} \times 110 \bmod 2579$$

$$= 147290 \bmod 2579$$

$$= 287$$

Hasil Enkripsi Blok 24: ASCII (M) = 110, = 821, = 287

Blok 25 - ASCII: 111 (k = 39)

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 1061$$

$$2^{32} \bmod 2579 = [2^{16} \bmod 2579] \times [2^{16} \bmod 2579] \bmod 2579$$

$$= (1061 \times 1061) \bmod 2579$$

$$= 1277$$

Menghitung hasil akhir $2^{39} \bmod 2579$:

$$2^{39} \bmod 2579 = [2^{32} \bmod 2579] \times [2^4 \bmod 2579] \times [2^2 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (1277 \times 16 \times 4 \times 2) \bmod 2579$$

$$= 163456 \bmod 2579$$

$$= 979$$

$$949^1 \bmod 2579 = 949$$

$$949^2 \bmod 2579 = [949^1 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (949 \times 949) \bmod 2579$$

$$= 530$$

$$949^4 \bmod 2579 = [949^2 \bmod 2579] \times [949^2 \bmod 2579] \bmod 2579$$

$$= (530 \times 530) \bmod 2579$$

$$= 2368$$

$$949^8 \bmod 2579 = [949^4 \bmod 2579] \times [949^4 \bmod 2579] \bmod 2579$$

$$= (2368 \times 2368) \bmod 2579$$

$$= 678$$

$$949^{16} \bmod 2579 = [949^8 \bmod 2579] \times [949^8 \bmod 2579] \bmod 2579$$

$$= (678 \times 678) \bmod 2579$$

$$= 622$$

$$949^{32} \bmod 2579 = [949^{16} \bmod 2579] \times [949^{16} \bmod 2579] \bmod 2579$$

$$= (622 \times 622) \bmod 2579$$

$$= 34$$

Menghitung hasil akhir $949^{39} \bmod 2579$:

$$949^{39} \bmod 2579 = [949^{32} \bmod 2579] \times [949^4 \bmod 2579] \times [949^2 \bmod 2579] \times [949^1 \bmod 2579] \bmod 2579$$

$$= (34 \times 2368 \times 530 \times 949) \bmod 2579$$

$$= 40495120640 \bmod 2579$$

$$= 489$$

$$949^{39} \bmod 2579 = 489$$

$$949^{39} \times 111 \bmod 2579$$

$$= 54279 \bmod 2579$$

$$= 120$$

Hasil Enkripsi Blok 25: ASCII (M) = 111, = 979, = 120

ChipherText:

(1061, 1472) (910, 203) (512, 2309) (1061, 562) (760, 651) (1337, 434) (32, 1167) (32, 2198)

(2179, 834) (850, 2535) (2, 1643) (1410, 2379) (8, 692) (32, 1845) (2122, 662) (2529, 1561)

(16, 985) (1109, 1485) (1779, 1258) (482, 329) (32, 1492) (1024, 783) (1779, 1772) (821, 287)
(979, 120)

PROSES DEKRIPSI EL GAMAL

Blok 1 - Dekripsi dengan $a = 1061$, $b = 1472$

$$1061^1 \bmod 2579 = 1061$$

$$1061^2 \bmod 2579 = [1061^1 \bmod 2579] \times [1061^1 \bmod 2579] \bmod 2579$$

$$= (1061 \times 1061) \bmod 2579$$

$$= 1125721 \bmod 2579$$

$$= 1277$$

$$1061^4 \bmod 2579 = [1061^2 \bmod 2579] \times [1061^2 \bmod 2579] \bmod 2579$$

$$= (1277 \times 1277) \bmod 2579$$

$$= 1630729 \bmod 2579$$

$$= 801$$

$$1061^8 \bmod 2579 = [1061^4 \bmod 2579] \times [1061^4 \bmod 2579] \bmod 2579$$

$$= (801 \times 801) \bmod 2579$$

$$= 641601 \bmod 2579$$

$$= 2009$$

$$1061^{16} \bmod 2579 = [1061^8 \bmod 2579] \times [1061^8 \bmod 2579] \bmod 2579$$

$$= (2009 \times 2009) \bmod 2579$$

$$= 4036081 \bmod 2579$$

$$= 2525$$

$$1061^{32} \bmod 2579 = [1061^{16} \bmod 2579] \times [1061^{16} \bmod 2579] \bmod 2579$$

$$= (2525 \times 2525) \bmod 2579$$

$$= 6375625 \bmod 2579$$

$$= 337$$

$$1061^{64} \bmod 2579 = [1061^{32} \bmod 2579] \times [1061^{32} \bmod 2579] \bmod 2579$$

$$= (337 \times 337) \bmod 2579$$

$$= 113569 \bmod 2579$$

$$= 93$$

$$1061^{128} \bmod 2579 = [1061^{64} \bmod 2579] \times [1061^{64} \bmod 2579] \bmod 2579$$

$$= (93 \times 93) \bmod 2579$$

$$= 8649 \bmod 2579$$

$$= 912$$

$$1061^{256} \bmod 2579 = [1061^{128} \bmod 2579] \times [1061^{128} \bmod 2579] \bmod 2579$$

$$= (912 \times 912) \bmod 2579$$

$$= 831744 \bmod 2579$$

$$= 1306$$

$$1061^{512} \bmod 2579 = [1061^{256} \bmod 2579] \times [1061^{256} \bmod 2579] \bmod 2579$$

$$= (1306 \times 1306) \bmod 2579$$

$$= 1705636 \bmod 2579$$

$$= 917$$

$$1061^{1024} \bmod 2579 = [1061^{512} \bmod 2579] \times [1061^{512} \bmod 2579] \bmod 2579$$

$$= (917 \times 917) \bmod 2579$$

$$= 840889 \bmod 2579$$

$$= 135$$

Menghitung hasil akhir $1061^{1813} \bmod 2579$:

$$1061^{1813} \bmod 2579 = [1061^{1024} \bmod 2579] \times [1061^{512} \bmod 2579] \times [1061^{256} \bmod 2579] \times [1061^{16} \bmod 2579] \times [1061^4 \bmod 2579] \times [1061^1 \bmod 2579] \bmod 2579$$

$$= (135 \times 917 \times 1306 \times 2525 \times 801 \times 1061) \bmod 2579$$

$$= 346940950158636750 \bmod 2579$$

$$= 170$$

$$\text{Perhitungan: } M = (170 \times 1472) \bmod 2579$$

$$= 250240 \bmod 2579$$

$$= 77$$

Hasil Dekripsi Blok 1: $y = 170$, $M = 77$

Blok 2 - Dekripsi dengan $= 910$, $= 203$

$$910^1 \bmod 2579 = 910$$

$$910^2 \bmod 2579 = [910^1 \bmod 2579] \times [910^1 \bmod 2579] \bmod 2579$$

$$= (910 \times 910) \bmod 2579$$

$$= 828100 \bmod 2579$$

$$= 241$$

$$910^4 \bmod 2579 = [910^2 \bmod 2579] \times [910^2 \bmod 2579] \bmod 2579$$

$$= (241 \times 241) \bmod 2579$$

$$= 58081 \bmod 2579$$

$$= 1343$$

$$910^8 \bmod 2579 = [910^4 \bmod 2579] \times [910^4 \bmod 2579] \bmod 2579$$

$$= (1343 \times 1343) \bmod 2579$$

$$= 1803649 \bmod 2579$$

$$= 928$$

$$910^{16} \bmod 2579 = [910^8 \bmod 2579] \times [910^8 \bmod 2579] \bmod 2579$$

$$= (928 \times 928) \bmod 2579$$

$$= 861184 \bmod 2579$$

$$= 2377$$

$$910^{32} \bmod 2579 = [910^{16} \bmod 2579] \times [910^{16} \bmod 2579] \bmod 2579$$

$$= (2377 \times 2377) \bmod 2579$$

$$= 5650129 \bmod 2579$$

$$= 2119$$

$$910^{64} \bmod 2579 = [910^{32} \bmod 2579] \times [910^{32} \bmod 2579] \bmod 2579$$

$$= (2119 \times 2119) \bmod 2579$$

$$= 4490161 \bmod 2579$$

$$= 122$$

$$910^{128} \bmod 2579 = [910^{64} \bmod 2579] \times [910^{64} \bmod 2579] \bmod 2579$$

$$= (122 \times 122) \bmod 2579$$

$$= 14884 \bmod 2579$$

$$= 1989$$

$$\begin{aligned}
910^{256} \bmod 2579 &= [910^{128} \bmod 2579] \times [910^{128} \bmod 2579] \bmod 2579 \\
&= (1989 \times 1989) \bmod 2579 \\
&= 3956121 \bmod 2579 \\
&= 2514
\end{aligned}$$

$$\begin{aligned}
910^{512} \bmod 2579 &= [910^{256} \bmod 2579] \times [910^{256} \bmod 2579] \bmod 2579 \\
&= (2514 \times 2514) \bmod 2579 \\
&= 6320196 \bmod 2579 \\
&= 1646
\end{aligned}$$

$$\begin{aligned}
910^{1024} \bmod 2579 &= [910^{512} \bmod 2579] \times [910^{512} \bmod 2579] \bmod 2579 \\
&= (1646 \times 1646) \bmod 2579 \\
&= 2709316 \bmod 2579 \\
&= 1366
\end{aligned}$$

Menghitung hasil akhir $910^{1813} \bmod 2579$:

$$\begin{aligned}
910^{1813} \bmod 2579 &= [910^{1024} \bmod 2579] \times [910^{512} \bmod 2579] \times [910^{256} \bmod 2579] \times \\
&\quad [910^{16} \bmod 2579] \times [910^4 \bmod 2579] \times [910^1 \bmod 2579] \bmod 2579 \\
&= (1366 \times 1646 \times 2514 \times 2377 \times 1343 \times 910) \bmod 2579 \\
&= 16420727356349993040 \bmod 2579 \\
&= 2414
\end{aligned}$$

Perhitungan: $M = (2414 \times 203) \bmod 2579$

$$\begin{aligned}
&= 490042 \bmod 2579 \\
&= 32
\end{aligned}$$

Hasil Dekripsi Blok 2: $y = 2414$, $M = 32$

Blok 3 - Dekripsi dengan $= 512$, $= 2309$

$$\begin{aligned}
512^1 \bmod 2579 &= 512 \\
512^2 \bmod 2579 &= [512^1 \bmod 2579] \times [512^1 \bmod 2579] \bmod 2579 \\
&= (512 \times 512) \bmod 2579 \\
&= 262144 \bmod 2579 \\
&= 1665
\end{aligned}$$

$$512^4 \bmod 2579 = [512^2 \bmod 2579] \times [512^2 \bmod 2579] \bmod 2579$$

$$= (1665 \times 1665) \bmod 2579$$

$$= 2772225 \bmod 2579$$

$$= 2379$$

$$512^8 \bmod 2579 = [512^4 \bmod 2579] \times [512^4 \bmod 2579] \bmod 2579$$

$$= (2379 \times 2379) \bmod 2579$$

$$= 5659641 \bmod 2579$$

$$= 1315$$

$$512^{16} \bmod 2579 = [512^8 \bmod 2579] \times [512^8 \bmod 2579] \bmod 2579$$

$$= (1315 \times 1315) \bmod 2579$$

$$= 1729225 \bmod 2579$$

$$= 1295$$

$$512^{32} \bmod 2579 = [512^{16} \bmod 2579] \times [512^{16} \bmod 2579] \bmod 2579$$

$$= (1295 \times 1295) \bmod 2579$$

$$= 1677025 \bmod 2579$$

$$= 675$$

$$512^{64} \bmod 2579 = [512^{32} \bmod 2579] \times [512^{32} \bmod 2579] \bmod 2579$$

$$= (675 \times 675) \bmod 2579$$

$$= 455625 \bmod 2579$$

$$= 1721$$

$$512^{128} \bmod 2579 = [512^{64} \bmod 2579] \times [512^{64} \bmod 2579] \bmod 2579$$

$$= (1721 \times 1721) \bmod 2579$$

$$= 2961841 \bmod 2579$$

$$= 1149$$

$$512^{256} \bmod 2579 = [512^{128} \bmod 2579] \times [512^{128} \bmod 2579] \bmod 2579$$

$$= (1149 \times 1149) \bmod 2579$$

$$= 1320201 \bmod 2579$$

$$= 2332$$

$$512^{512} \bmod 2579 = [512^{256} \bmod 2579] \times [512^{256} \bmod 2579] \bmod 2579$$

$$= (2332 \times 2332) \bmod 2579$$

$$= 5438224 \bmod 2579$$

$$= 1692$$

$$512^{1024} \bmod 2579 = [512^{512} \bmod 2579] \times [512^{512} \bmod 2579] \bmod 2579$$

$$= (1692 \times 1692) \bmod 2579$$

$$= 2862864 \bmod 2579$$

$$= 174$$

Menghitung hasil akhir $512^{1813} \bmod 2579$:

$$512^{1813} \bmod 2579 = [512^{1024} \bmod 2579] \times [512^{512} \bmod 2579] \times [512^{256} \bmod 2579] \times [512^{16} \bmod 2579] \times [512^4 \bmod 2579] \times [512^1 \bmod 2579] \bmod 2579$$

$$= (174 \times 1692 \times 2332 \times 1295 \times 2379 \times 512) \bmod 2579$$

$$= 1082959772079144960 \bmod 2579$$

$$= 2445$$

$$\text{Perhitungan: } M = (2445 \times 2309) \bmod 2579$$

$$= 5645505 \bmod 2579$$

$$= 74$$

Hasil Dekripsi Blok 3: $y = 2445$, $M = 74$

Blok 4 - Dekripsi dengan $x = 1061$, $y = 562$

$$1061^1 \bmod 2579 = 1061$$

$$1061^2 \bmod 2579 = [1061^1 \bmod 2579] \times [1061^1 \bmod 2579] \bmod 2579$$

$$= (1061 \times 1061) \bmod 2579$$

$$= 1125721 \bmod 2579$$

$$= 1277$$

$$1061^4 \bmod 2579 = [1061^2 \bmod 2579] \times [1061^2 \bmod 2579] \bmod 2579$$

$$= (1277 \times 1277) \bmod 2579$$

$$= 1630729 \bmod 2579$$

$$= 801$$

$$1061^8 \bmod 2579 = [1061^4 \bmod 2579] \times [1061^4 \bmod 2579] \bmod 2579$$

$$= (801 \times 801) \bmod 2579$$

$$= 641601 \bmod 2579$$

$$= 2009$$

$$1061^{16} \bmod 2579 = [1061^8 \bmod 2579] \times [1061^8 \bmod 2579] \bmod 2579$$

$$= (2009 \times 2009) \bmod 2579$$

$$= 4036081 \bmod 2579$$

$$= 2525$$

$$1061^{32} \bmod 2579 = [1061^{16} \bmod 2579] \times [1061^{16} \bmod 2579] \bmod 2579$$

$$= (2525 \times 2525) \bmod 2579$$

$$= 6375625 \bmod 2579$$

$$= 337$$

$$1061^{64} \bmod 2579 = [1061^{32} \bmod 2579] \times [1061^{32} \bmod 2579] \bmod 2579$$

$$= (337 \times 337) \bmod 2579$$

$$= 113569 \bmod 2579$$

$$= 93$$

$$1061^{128} \bmod 2579 = [1061^{64} \bmod 2579] \times [1061^{64} \bmod 2579] \bmod 2579$$

$$= (93 \times 93) \bmod 2579$$

$$= 8649 \bmod 2579$$

$$= 912$$

$$1061^{256} \bmod 2579 = [1061^{128} \bmod 2579] \times [1061^{128} \bmod 2579] \bmod 2579$$

$$= (912 \times 912) \bmod 2579$$

$$= 831744 \bmod 2579$$

$$= 1306$$

$$1061^{512} \bmod 2579 = [1061^{256} \bmod 2579] \times [1061^{256} \bmod 2579] \bmod 2579$$

$$= (1306 \times 1306) \bmod 2579$$

$$= 1705636 \bmod 2579$$

$$= 917$$

$$1061^{1024} \bmod 2579 = [1061^{512} \bmod 2579] \times [1061^{512} \bmod 2579] \bmod 2579$$

$$= (917 \times 917) \bmod 2579$$

$$= 840889 \bmod 2579$$

$$= 135$$

Menghitung hasil akhir $1061^{1813} \bmod 2579$:

$$1061^{1813} \bmod 2579 = [1061^{1024} \bmod 2579] \times [1061^{512} \bmod 2579] \times [1061^{256} \bmod 2579] \times [1061^{16} \bmod 2579] \times [1061^4 \bmod 2579] \times [1061^1 \bmod 2579] \bmod 2579$$

$$= (135 \times 917 \times 1306 \times 2525 \times 801 \times 1061) \bmod 2579$$

$$= 346940950158636750 \bmod 2579$$

$$= 170$$

$$\text{Perhitungan: } M = (170 \times 562) \bmod 2579$$

$$= 95540 \bmod 2579$$

$$= 117$$

Hasil Dekripsi Blok 4: $y = 170$, $M = 117$

Blok 5 - Dekripsi dengan $= 760$, $= 651$

$$760^1 \bmod 2579 = 760$$

$$760^2 \bmod 2579 = [760^1 \bmod 2579] \times [760^1 \bmod 2579] \bmod 2579$$

$$= (760 \times 760) \bmod 2579$$

$$= 577600 \bmod 2579$$

$$= 2483$$

$$760^4 \bmod 2579 = [760^2 \bmod 2579] \times [760^2 \bmod 2579] \bmod 2579$$

$$= (2483 \times 2483) \bmod 2579$$

$$= 6165289 \bmod 2579$$

$$= 1479$$

$$760^8 \bmod 2579 = [760^4 \bmod 2579] \times [760^4 \bmod 2579] \bmod 2579$$

$$= (1479 \times 1479) \bmod 2579$$

$$= 2187441 \bmod 2579$$

$$= 449$$

$$760^{16} \bmod 2579 = [760^8 \bmod 2579] \times [760^8 \bmod 2579] \bmod 2579$$

$$= (449 \times 449) \bmod 2579$$

$$= 201601 \bmod 2579$$

$$= 439$$

$$760^{32} \bmod 2579 = [760^{16} \bmod 2579] \times [760^{16} \bmod 2579] \bmod 2579$$

$$= (439 \times 439) \bmod 2579$$

$$= 192721 \bmod 2579$$

$$= 1875$$

$$760^{64} \bmod 2579 = [760^{32} \bmod 2579] \times [760^{32} \bmod 2579] \bmod 2579$$

$$= (1875 \times 1875) \bmod 2579$$

$$= 3515625 \bmod 2579$$

$$= 448$$

$$760^{128} \bmod 2579 = [760^{64} \bmod 2579] \times [760^{64} \bmod 2579] \bmod 2579$$

$$= (448 \times 448) \bmod 2579$$

$$= 200704 \bmod 2579$$

$$= 2121$$

$$760^{256} \bmod 2579 = [760^{128} \bmod 2579] \times [760^{128} \bmod 2579] \bmod 2579$$

$$= (2121 \times 2121) \bmod 2579$$

$$= 4498641 \bmod 2579$$

$$= 865$$

$$760^{512} \bmod 2579 = [760^{256} \bmod 2579] \times [760^{256} \bmod 2579] \bmod 2579$$

$$= (865 \times 865) \bmod 2579$$

$$= 748225 \bmod 2579$$

$$= 315$$

$$760^{1024} \bmod 2579 = [760^{512} \bmod 2579] \times [760^{512} \bmod 2579] \bmod 2579$$

$$= (315 \times 315) \bmod 2579$$

$$= 99225 \bmod 2579$$

$$= 1223$$

Menghitung hasil akhir $760^{1813} \bmod 2579$:

$$760^{1813} \bmod 2579 = [760^{1024} \bmod 2579] \times [760^{512} \bmod 2579] \times [760^{256} \bmod 2579] \times [760^{16} \bmod 2579] \times [760^4 \bmod 2579] \times [760^1 \bmod 2579] \bmod 2579$$

$$= (1223 \times 315 \times 865 \times 439 \times 1479 \times 760) \bmod 2579$$

$$= 164436946964703000 \bmod 2579$$

$$= 325$$

$$\text{Perhitungan: } M = (325 \times 651) \bmod 2579$$

$$= 211575 \bmod 2579$$

$$= 97$$

Hasil Dekripsi Blok 5: $y = 325$, $M = 97$

Blok 6 - Dekripsi dengan $a = 1337$, $b = 434$

$$1337^1 \bmod 2579 = 1337$$

$$1337^2 \bmod 2579 = [1337^1 \bmod 2579] \times [1337^1 \bmod 2579] \bmod 2579$$

$$= (1337 \times 1337) \bmod 2579$$

$$= 1787569 \bmod 2579$$

$$= 322$$

$$1337^4 \bmod 2579 = [1337^2 \bmod 2579] \times [1337^2 \bmod 2579] \bmod 2579$$

$$= (322 \times 322) \bmod 2579$$

$$= 103684 \bmod 2579$$

$$= 524$$

$$1337^8 \bmod 2579 = [1337^4 \bmod 2579] \times [1337^4 \bmod 2579] \bmod 2579$$

$$= (524 \times 524) \bmod 2579$$

$$= 274576 \bmod 2579$$

$$= 1202$$

$$1337^{16} \bmod 2579 = [1337^8 \bmod 2579] \times [1337^8 \bmod 2579] \bmod 2579$$

$$= (1202 \times 1202) \bmod 2579$$

$$= 1444804 \bmod 2579$$

$$= 564$$

$$1337^{32} \bmod 2579 = [1337^{16} \bmod 2579] \times [1337^{16} \bmod 2579] \bmod 2579$$

$$= (564 \times 564) \bmod 2579$$

$$= 318096 \bmod 2579$$

$$= 879$$

$$1337^{64} \bmod 2579 = [1337^{32} \bmod 2579] \times [1337^{32} \bmod 2579] \bmod 2579$$

$$= (879 \times 879) \bmod 2579$$

$$= 772641 \bmod 2579$$

$$= 1520$$

$$1337^{128} \bmod 2579 = [1337^{64} \bmod 2579] \times [1337^{64} \bmod 2579] \bmod 2579$$

$$= (1520 \times 1520) \bmod 2579$$

$$= 2310400 \bmod 2579$$

$$= 2195$$

$$1337^{256} \bmod 2579 = [1337^{128} \bmod 2579] \times [1337^{128} \bmod 2579] \bmod 2579$$

$$= (2195 \times 2195) \bmod 2579$$

$$= 4818025 \bmod 2579$$

$$= 453$$

$$1337^{512} \bmod 2579 = [1337^{256} \bmod 2579] \times [1337^{256} \bmod 2579] \bmod 2579$$

$$= (453 \times 453) \bmod 2579$$

$$= 205209 \bmod 2579$$

$$= 1468$$

$$1337^{1024} \bmod 2579 = [1337^{512} \bmod 2579] \times [1337^{512} \bmod 2579] \bmod 2579$$

$$= (1468 \times 1468) \bmod 2579$$

$$= 2155024 \bmod 2579$$

$$= 1559$$

Menghitung hasil akhir $1337^{1813} \bmod 2579$:

$$1337^{1813} \bmod 2579 = [1337^{1024} \bmod 2579] \times [1337^{512} \bmod 2579] \times [1337^{256} \bmod 2579] \times [1337^{16} \bmod 2579] \times [1337^4 \bmod 2579] \times [1337^1 \bmod 2579] \bmod 2579$$

$$= (1559 \times 1468 \times 453 \times 564 \times 524 \times 1337) \bmod 2579$$

$$= 409649256542377152 \bmod 2579$$

$$= 1058$$

$$\text{Perhitungan: } M = (1058 \times 434) \bmod 2579$$

$$= 459172 \bmod 2579$$

$$= 110$$

Hasil Dekripsi Blok 6: $y = 1058$, $M = 110$

Blok 7 - Dekripsi dengan $= 32$, $= 1167$

$$32^1 \bmod 2579 = 32$$

$$32^2 \bmod 2579 = [32^1 \bmod 2579] \times [32^1 \bmod 2579] \bmod 2579$$

$$= (32 \times 32) \bmod 2579$$

$$= 1024 \bmod 2579$$

$$= 1024$$

$$32^4 \bmod 2579 = [32^2 \bmod 2579] \times [32^2 \bmod 2579] \bmod 2579$$

$$= (1024 \times 1024) \bmod 2579$$

$$= 1048576 \bmod 2579$$

$$= 1502$$

$$32^8 \bmod 2579 = [32^4 \bmod 2579] \times [32^4 \bmod 2579] \bmod 2579$$

$$= (1502 \times 1502) \bmod 2579$$

$$= 2256004 \bmod 2579$$

$$= 1958$$

$$32^{16} \bmod 2579 = [32^8 \bmod 2579] \times [32^8 \bmod 2579] \bmod 2579$$

$$= (1958 \times 1958) \bmod 2579$$

$$= 3833764 \bmod 2579$$

$$= 1370$$

$$32^{32} \bmod 2579 = [32^{16} \bmod 2579] \times [32^{16} \bmod 2579] \bmod 2579$$

$$= (1370 \times 1370) \bmod 2579$$

$$= 1876900 \bmod 2579$$

$$= 1967$$

$$32^{64} \bmod 2579 = [32^{32} \bmod 2579] \times [32^{32} \bmod 2579] \bmod 2579$$

$$= (1967 \times 1967) \bmod 2579$$

$$= 3869089 \bmod 2579$$

$$= 589$$

$$32^{128} \bmod 2579 = [32^{64} \bmod 2579] \times [32^{64} \bmod 2579] \bmod 2579$$

$$= (589 \times 589) \bmod 2579$$

$$= 346921 \bmod 2579$$

$$= 1335$$

$$32^{256} \bmod 2579 = [32^{128} \bmod 2579] \times [32^{128} \bmod 2579] \bmod 2579$$

$$= (1335 \times 1335) \bmod 2579$$

$$= 1782225 \bmod 2579$$

$$= 136$$

$$32^{512} \bmod 2579 = [32^{256} \bmod 2579] \times [32^{256} \bmod 2579] \bmod 2579$$

$$= (136 \times 136) \bmod 2579$$

$$= 18496 \bmod 2579$$

$$= 443$$

$$32^{1024} \bmod 2579 = [32^{512} \bmod 2579] \times [32^{512} \bmod 2579] \bmod 2579$$

$$= (443 \times 443) \bmod 2579$$

$$= 196249 \bmod 2579$$

$$= 245$$

Menghitung hasil akhir $32^{1813} \bmod 2579$:

$$32^{1813} \bmod 2579 = [32^{1024} \bmod 2579] \times [32^{512} \bmod 2579] \times [32^{256} \bmod 2579] \times [32^{16} \bmod 2579] \times [32^4 \bmod 2579] \times [32^1 \bmod 2579] \bmod 2579$$

$$= (245 \times 443 \times 136 \times 1370 \times 1502 \times 32) \bmod 2579$$

$$= 971961801036800 \bmod 2579$$

$$= 2484$$

$$\text{Perhitungan: } M = (2484 \times 1167) \bmod 2579$$

$$= 2898828 \bmod 2579$$

$$= 32$$

Hasil Dekripsi Blok 7: $y = 2484$, $M = 32$

Blok 8 - Dekripsi dengan $= 32$, $= 2198$

$$32^1 \bmod 2579 = 32$$

$$32^2 \bmod 2579 = [32^1 \bmod 2579] \times [32^1 \bmod 2579] \bmod 2579$$

$$= (32 \times 32) \bmod 2579$$

$$= 1024 \bmod 2579$$

$$= 1024$$

$$32^4 \bmod 2579 = [32^2 \bmod 2579] \times [32^2 \bmod 2579] \bmod 2579$$

$$= (1024 \times 1024) \bmod 2579$$

$$= 1048576 \bmod 2579$$

$$= 1502$$

$$32^8 \bmod 2579 = [32^4 \bmod 2579] \times [32^4 \bmod 2579] \bmod 2579$$

$$= (1502 \times 1502) \bmod 2579$$

$$= 2256004 \bmod 2579$$

$$= 1958$$

$$32^{16} \bmod 2579 = [32^8 \bmod 2579] \times [32^8 \bmod 2579] \bmod 2579$$

$$= (1958 \times 1958) \bmod 2579$$

$$= 3833764 \bmod 2579$$

$$= 1370$$

$$32^{32} \bmod 2579 = [32^{16} \bmod 2579] \times [32^{16} \bmod 2579] \bmod 2579$$

$$= (1370 \times 1370) \bmod 2579$$

$$= 1876900 \bmod 2579$$

$$= 1967$$

$$32^{64} \bmod 2579 = [32^{32} \bmod 2579] \times [32^{32} \bmod 2579] \bmod 2579$$

$$= (1967 \times 1967) \bmod 2579$$

$$= 3869089 \bmod 2579$$

$$= 589$$

$$32^{128} \bmod 2579 = [32^{64} \bmod 2579] \times [32^{64} \bmod 2579] \bmod 2579$$

$$= (589 \times 589) \bmod 2579$$

$$= 346921 \bmod 2579$$

$$= 1335$$

$$32^{256} \bmod 2579 = [32^{128} \bmod 2579] \times [32^{128} \bmod 2579] \bmod 2579$$

$$= (1335 \times 1335) \bmod 2579$$

$$= 1782225 \bmod 2579$$

$$= 136$$

$$32^{512} \bmod 2579 = [32^{256} \bmod 2579] \times [32^{256} \bmod 2579] \bmod 2579$$

$$= (136 \times 136) \bmod 2579$$

$$= 18496 \bmod 2579$$

$$= 443$$

$$32^{1024} \bmod 2579 = [32^{512} \bmod 2579] \times [32^{512} \bmod 2579] \bmod 2579$$

$$= (443 \times 443) \bmod 2579$$

$$= 196249 \bmod 2579$$

$$= 245$$

Menghitung hasil akhir $32^{1813} \bmod 2579$:

$$32^{1813} \bmod 2579 = [32^{1024} \bmod 2579] \times [32^{512} \bmod 2579] \times [32^{256} \bmod 2579] \times [32^{16} \bmod 2579] \times [32^4 \bmod 2579] \times [32^1 \bmod 2579] \bmod 2579$$

$$= (245 \times 443 \times 136 \times 1370 \times 1502 \times 32) \bmod 2579$$

$$= 971961801036800 \bmod 2579$$

$$= 2484$$

$$\text{Perhitungan: } M = (2484 \times 2198) \bmod 2579$$

$$= 5459832 \bmod 2579$$

$$= 89$$

Hasil Dekripsi Blok 8: $y = 2484$, $M = 89$

Blok 9 - Dekripsi dengan $= 2179$, $= 834$

$$2179^1 \bmod 2579 = 2179$$

$$2179^2 \bmod 2579 = [2179^1 \bmod 2579] \times [2179^1 \bmod 2579] \bmod 2579$$

$$= (2179 \times 2179) \bmod 2579$$

$$= 4748041 \bmod 2579$$

$$= 102$$

$$2179^4 \bmod 2579 = [2179^2 \bmod 2579] \times [2179^2 \bmod 2579] \bmod 2579$$

$$= (102 \times 102) \bmod 2579$$

$$= 10404 \bmod 2579$$

$$= 88$$

$$2179^8 \bmod 2579 = [2179^4 \bmod 2579] \times [2179^4 \bmod 2579] \bmod 2579$$

$$= (88 \times 88) \bmod 2579$$

$$= 7744 \bmod 2579$$

$$= 7$$

$$2179^{16} \bmod 2579 = [2179^8 \bmod 2579] \times [2179^8 \bmod 2579] \bmod 2579$$

$$= (7 \times 7) \bmod 2579$$

$$= 49 \bmod 2579$$

$$= 49$$

$$2179^{32} \bmod 2579 = [2179^{16} \bmod 2579] \times [2179^{16} \bmod 2579] \bmod 2579$$

$$= (49 \times 49) \bmod 2579$$

$$= 2401 \bmod 2579$$

$$= 2401$$

$$2179^{64} \bmod 2579 = [2179^{32} \bmod 2579] \times [2179^{32} \bmod 2579] \bmod 2579$$

$$= (2401 \times 2401) \bmod 2579$$

$$= 5764801 \bmod 2579$$

$$= 736$$

$$2179^{128} \bmod 2579 = [2179^{64} \bmod 2579] \times [2179^{64} \bmod 2579] \bmod 2579$$

$$= (736 \times 736) \bmod 2579$$

$$= 541696 \bmod 2579$$

$$= 106$$

$$2179^{256} \bmod 2579 = [2179^{128} \bmod 2579] \times [2179^{128} \bmod 2579] \bmod 2579$$

$$= (106 \times 106) \bmod 2579$$

$$= 11236 \bmod 2579$$

$$= 920$$

$$2179^{512} \bmod 2579 = [2179^{256} \bmod 2579] \times [2179^{256} \bmod 2579] \bmod 2579$$

$$= (920 \times 920) \bmod 2579$$

$$= 846400 \bmod 2579$$

$$= 488$$

$$2179^{1024} \bmod 2579 = [2179^{512} \bmod 2579] \times [2179^{512} \bmod 2579] \bmod 2579$$

$$= (488 \times 488) \bmod 2579$$

$$= 238144 \bmod 2579$$

$$= 876$$

Menghitung hasil akhir $2179^{1813} \bmod 2579$:

$$2179^{1813} \bmod 2579 = [2179^{1024} \bmod 2579] \times [2179^{512} \bmod 2579] \times [2179^{256} \bmod 2579] \times [2179^{16} \bmod 2579] \times [2179^4 \bmod 2579] \times [2179^1 \bmod 2579] \bmod 2579$$

$$= (876 \times 488 \times 920 \times 49 \times 88 \times 2179) \bmod 2579$$

$$= 3695283288238080 \bmod 2579$$

$$= 1135$$

$$\text{Perhitungan: } M = (1135 \times 834) \bmod 2579$$

$$= 946590 \bmod 2579$$

$$= 97$$

Hasil Dekripsi Blok 9: $y = 1135$, $M = 97$

Blok 10 - Dekripsi dengan $a = 850$, $b = 2535$

$$850^1 \bmod 2579 = 850$$

$$850^2 \bmod 2579 = [850^1 \bmod 2579] \times [850^1 \bmod 2579] \bmod 2579$$

$$= (850 \times 850) \bmod 2579$$

$$= 722500 \bmod 2579$$

$$= 380$$

$$850^4 \bmod 2579 = [850^2 \bmod 2579] \times [850^2 \bmod 2579] \bmod 2579$$

$$= (380 \times 380) \bmod 2579$$

$$= 144400 \bmod 2579$$

$$= 2555$$

$$850^8 \bmod 2579 = [850^4 \bmod 2579] \times [850^4 \bmod 2579] \bmod 2579$$

$$= (2555 \times 2555) \bmod 2579$$

$$= 6528025 \bmod 2579$$

$$= 576$$

$$850^{16} \bmod 2579 = [850^8 \bmod 2579] \times [850^8 \bmod 2579] \bmod 2579$$

$$= (576 \times 576) \bmod 2579$$

$$= 331776 \bmod 2579$$

$$= 1664$$

$$850^{32} \bmod 2579 = [850^{16} \bmod 2579] \times [850^{16} \bmod 2579] \bmod 2579$$

$$= (1664 \times 1664) \bmod 2579$$

$$= 2768896 \bmod 2579$$

$$= 1629$$

$$850^{64} \bmod 2579 = [850^{32} \bmod 2579] \times [850^{32} \bmod 2579] \bmod 2579$$

$$= (1629 \times 1629) \bmod 2579$$

$$= 2653641 \bmod 2579$$

$$= 2429$$

$$850^{128} \bmod 2579 = [850^{64} \bmod 2579] \times [850^{64} \bmod 2579] \bmod 2579$$

$$= (2429 \times 2429) \bmod 2579$$

$$= 5900041 \bmod 2579$$

$$= 1868$$

$$850^{256} \bmod 2579 = [850^{128} \bmod 2579] \times [850^{128} \bmod 2579] \bmod 2579$$

$$= (1868 \times 1868) \bmod 2579$$

$$= 3489424 \bmod 2579$$

$$= 37$$

$$850^{512} \bmod 2579 = [850^{256} \bmod 2579] \times [850^{256} \bmod 2579] \bmod 2579$$

$$= (37 \times 37) \bmod 2579$$

$$= 1369 \bmod 2579$$

$$= 1369$$

$$850^{1024} \bmod 2579 = [850^{512} \bmod 2579] \times [850^{512} \bmod 2579] \bmod 2579$$

$$= (1369 \times 1369) \bmod 2579$$

$$= 1874161 \bmod 2579$$

$$= 1807$$

Menghitung hasil akhir $850^{1813} \bmod 2579$:

$$850^{1813} \bmod 2579 = [850^{1024} \bmod 2579] \times [850^{512} \bmod 2579] \times [850^{256} \bmod 2579] \times [850^{16} \bmod 2579] \times [850^4 \bmod 2579] \times [850^1 \bmod 2579] \bmod 2579$$

$$= (1807 \times 1369 \times 37 \times 1664 \times 2555 \times 850) \bmod 2579$$

$$= 330770276960032000 \bmod 2579$$

$$= 2225$$

$$\text{Perhitungan: } M = (2225 \times 2535) \bmod 2579$$

$$= 5640375 \bmod 2579$$

$$= 102$$

Hasil Dekripsi Blok 10: $y = 2225$, $M = 102$

Blok 11 - Dekripsi dengan $a = 2$, $b = 1643$

$$2^1 \bmod 2579 = 2$$

$$2^2 \bmod 2579 = [2^1 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (2 \times 2) \bmod 2579$$

$$= 4 \bmod 2579$$

$$= 4$$

$$2^4 \bmod 2579 = [2^2 \bmod 2579] \times [2^2 \bmod 2579] \bmod 2579$$

$$= (4 \times 4) \bmod 2579$$

$$= 16 \bmod 2579$$

$$= 16$$

$$2^8 \bmod 2579 = [2^4 \bmod 2579] \times [2^4 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256 \bmod 2579$$

$$= 256$$

$$2^{16} \bmod 2579 = [2^8 \bmod 2579] \times [2^8 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 65536 \bmod 2579$$

$$= 1061$$

$$2^{32} \bmod 2579 = [2^{16} \bmod 2579] \times [2^{16} \bmod 2579] \bmod 2579$$

$$= (1061 \times 1061) \bmod 2579$$

$$= 1125721 \bmod 2579$$

$$= 1277$$

$$2^{64} \bmod 2579 = [2^{32} \bmod 2579] \times [2^{32} \bmod 2579] \bmod 2579$$

$$= (1277 \times 1277) \bmod 2579$$

$$= 1630729 \bmod 2579$$

$$= 801$$

$$2^{128} \bmod 2579 = [2^{64} \bmod 2579] \times [2^{64} \bmod 2579] \bmod 2579$$

$$= (801 \times 801) \bmod 2579$$

$$= 641601 \bmod 2579$$

$$= 2009$$

$$2^{256} \bmod 2579 = [2^{128} \bmod 2579] \times [2^{128} \bmod 2579] \bmod 2579$$

$$= (2009 \times 2009) \bmod 2579$$

$$= 4036081 \bmod 2579$$

$$= 2525$$

$$2^{512} \bmod 2579 = [2^{256} \bmod 2579] \times [2^{256} \bmod 2579] \bmod 2579$$

$$= (2525 \times 2525) \bmod 2579$$

$$= 6375625 \bmod 2579$$

$$= 337$$

$$2^{1024} \bmod 2579 = [2^{512} \bmod 2579] \times [2^{512} \bmod 2579] \bmod 2579$$

$$= (337 \times 337) \bmod 2579$$

$$= 113569 \bmod 2579$$

$$= 93$$

Menghitung hasil akhir $2^{1813} \bmod 2579$:

$$2^{1813} \bmod 2579 = [2^{1024} \bmod 2579] \times [2^{512} \bmod 2579] \times [2^{256} \bmod 2579] \times [2^{16} \bmod 2579] \times [2^4 \bmod 2579] \times [2^1 \bmod 2579] \bmod 2579$$

$$= (93 \times 337 \times 2525 \times 1061 \times 16 \times 2) \bmod 2579$$

$$= 2686826320800 \bmod 2579$$

$$= 1992$$

$$\text{Perhitungan: } M = (1992 \times 1643) \bmod 2579$$

$$= 3272856 \bmod 2579$$

$$= 105$$

Hasil Dekripsi Blok 11: $y = 1992$, $M = 105$

Blok 12 - Dekripsi dengan $= 1410$, $= 2379$

$$1410^1 \bmod 2579 = 1410$$

$$1410^2 \bmod 2579 = [1410^1 \bmod 2579] \times [1410^1 \bmod 2579] \bmod 2579$$

$$= (1410 \times 1410) \bmod 2579$$

$$= 1988100 \bmod 2579$$

$$= 2270$$

$$1410^4 \bmod 2579 = [1410^2 \bmod 2579] \times [1410^2 \bmod 2579] \bmod 2579$$

$$= (2270 \times 2270) \bmod 2579$$

$$= 5152900 \bmod 2579$$

$$= 58$$

$$1410^8 \bmod 2579 = [1410^4 \bmod 2579] \times [1410^4 \bmod 2579] \bmod 2579$$

$$= (58 \times 58) \bmod 2579$$

$$= 3364 \bmod 2579$$

$$= 785$$

$$1410^{16} \bmod 2579 = [1410^8 \bmod 2579] \times [1410^8 \bmod 2579] \bmod 2579$$

$$= (785 \times 785) \bmod 2579$$

$$= 616225 \bmod 2579$$

$$= 2423$$

$$1410^{32} \bmod 2579 = [1410^{16} \bmod 2579] \times [1410^{16} \bmod 2579] \bmod 2579$$

$$= (2423 \times 2423) \bmod 2579$$

$$= 5870929 \bmod 2579$$

$$= 1125$$

$$1410^{64} \bmod 2579 = [1410^{32} \bmod 2579] \times [1410^{32} \bmod 2579] \bmod 2579$$

$$= (1125 \times 1125) \bmod 2579$$

$$= 1265625 \bmod 2579$$

$$= 1915$$

$$1410^{128} \bmod 2579 = [1410^{64} \bmod 2579] \times [1410^{64} \bmod 2579] \bmod 2579$$

$$= (1915 \times 1915) \bmod 2579$$

$$= 3667225 \bmod 2579$$

$$= 2466$$

$$1410^{256} \bmod 2579 = [1410^{128} \bmod 2579] \times [1410^{128} \bmod 2579] \bmod 2579$$

$$= (2466 \times 2466) \bmod 2579$$

$$= 6081156 \bmod 2579$$

$$= 2453$$

$$1410^{512} \bmod 2579 = [1410^{256} \bmod 2579] \times [1410^{256} \bmod 2579] \bmod 2579$$

$$= (2453 \times 2453) \bmod 2579$$

$$= 6017209 \bmod 2579$$

$$= 402$$

$$1410^{1024} \bmod 2579 = [1410^{512} \bmod 2579] \times [1410^{512} \bmod 2579] \bmod 2579$$

$$= (402 \times 402) \bmod 2579$$

$$= 161604 \bmod 2579$$

$$= 1706$$

Menghitung hasil akhir $1410^{1813} \bmod 2579$:

$$1410^{1813} \bmod 2579 = [1410^{1024} \bmod 2579] \times [1410^{512} \bmod 2579] \times [1410^{256} \bmod 2579] \times [1410^{16} \bmod 2579] \times [1410^4 \bmod 2579] \times [1410^1 \bmod 2579] \bmod 2579$$

$$= (1706 \times 402 \times 2453 \times 2423 \times 58 \times 1410) \bmod 2579$$

$$= 333352064006097840 \bmod 2579$$

$$= 103$$

$$\text{Perhitungan: } M = (103 \times 2379) \bmod 2579$$

$$= 245037 \bmod 2579$$

$$= 32$$

Hasil Dekripsi Blok 12: $y = 103$, $M = 32$

Blok 13 - Dekripsi dengan $= 8$, $= 692$

$$8^1 \bmod 2579 = 8$$

$$8^2 \bmod 2579 = [8^1 \bmod 2579] \times [8^1 \bmod 2579] \bmod 2579$$

$$= (8 \times 8) \bmod 2579$$

$$= 64 \bmod 2579$$

$$= 64$$

$$8^4 \bmod 2579 = [8^2 \bmod 2579] \times [8^2 \bmod 2579] \bmod 2579$$

$$= (64 \times 64) \bmod 2579$$

$$= 4096 \bmod 2579$$

$$= 1517$$

$$8^8 \bmod 2579 = [8^4 \bmod 2579] \times [8^4 \bmod 2579] \bmod 2579$$

$$= (1517 \times 1517) \bmod 2579$$

$$= 2301289 \bmod 2579$$

$$= 821$$

$$8^{16} \bmod 2579 = [8^8 \bmod 2579] \times [8^8 \bmod 2579] \bmod 2579$$

$$= (821 \times 821) \bmod 2579$$

$$= 674041 \bmod 2579$$

$$= 922$$

$$8^{32} \bmod 2579 = [8^{16} \bmod 2579] \times [8^{16} \bmod 2579] \bmod 2579$$

$$= (922 \times 922) \bmod 2579$$

$$= 850084 \bmod 2579$$

$$= 1593$$

$$8^{64} \bmod 2579 = [8^{32} \bmod 2579] \times [8^{32} \bmod 2579] \bmod 2579$$

$$= (1593 \times 1593) \bmod 2579$$

$$= 2537649 \bmod 2579$$

$$= 2492$$

$$8^{128} \bmod 2579 = [8^{64} \bmod 2579] \times [8^{64} \bmod 2579] \bmod 2579$$

$$= (2492 \times 2492) \bmod 2579$$

$$= 6210064 \bmod 2579$$

$$= 2411$$

$$\begin{aligned}
8^{256} \bmod 2579 &= [8^{128} \bmod 2579] \times [8^{128} \bmod 2579] \bmod 2579 \\
&= (2411 \times 2411) \bmod 2579 \\
&= 5812921 \bmod 2579 \\
&= 2434
\end{aligned}$$

$$\begin{aligned}
8^{512} \bmod 2579 &= [8^{256} \bmod 2579] \times [8^{256} \bmod 2579] \bmod 2579 \\
&= (2434 \times 2434) \bmod 2579 \\
&= 5924356 \bmod 2579 \\
&= 393
\end{aligned}$$

$$\begin{aligned}
8^{1024} \bmod 2579 &= [8^{512} \bmod 2579] \times [8^{512} \bmod 2579] \bmod 2579 \\
&= (393 \times 393) \bmod 2579 \\
&= 154449 \bmod 2579 \\
&= 2288
\end{aligned}$$

Menghitung hasil akhir $8^{1813} \bmod 2579$:

$$\begin{aligned}
8^{1813} \bmod 2579 &= [8^{1024} \bmod 2579] \times [8^{512} \bmod 2579] \times [8^{256} \bmod 2579] \times [8^{16} \bmod 2579] \times [8^4 \bmod 2579] \times [8^1 \bmod 2579] \bmod 2579 \\
&= (2288 \times 393 \times 2434 \times 922 \times 1517 \times 8) \bmod 2579 \\
&= 24489258371415552 \bmod 2579 \\
&= 1230
\end{aligned}$$

$$\begin{aligned}
\text{Perhitungan: } M &= (1230 \times 692) \bmod 2579 \\
&= 851160 \bmod 2579 \\
&= 90
\end{aligned}$$

Hasil Dekripsi Blok 13: $y = 1230$, $M = 90$

Blok 14 - Dekripsi dengan $= 32$, $= 1845$

$$\begin{aligned}
32^1 \bmod 2579 &= 32 \\
32^2 \bmod 2579 &= [32^1 \bmod 2579] \times [32^1 \bmod 2579] \bmod 2579 \\
&= (32 \times 32) \bmod 2579 \\
&= 1024 \bmod 2579 \\
&= 1024
\end{aligned}$$

$$\begin{aligned}
32^4 \bmod 2579 &= [32^2 \bmod 2579] \times [32^2 \bmod 2579] \bmod 2579 \\
&= (1024 \times 1024) \bmod 2579 \\
&= 1048576 \bmod 2579 \\
&= 1502
\end{aligned}$$

$$\begin{aligned}
32^8 \bmod 2579 &= [32^4 \bmod 2579] \times [32^4 \bmod 2579] \bmod 2579 \\
&= (1502 \times 1502) \bmod 2579 \\
&= 2256004 \bmod 2579 \\
&= 1958
\end{aligned}$$

$$\begin{aligned}
32^{16} \bmod 2579 &= [32^8 \bmod 2579] \times [32^8 \bmod 2579] \bmod 2579 \\
&= (1958 \times 1958) \bmod 2579 \\
&= 3833764 \bmod 2579 \\
&= 1370
\end{aligned}$$

$$\begin{aligned}
32^{32} \bmod 2579 &= [32^{16} \bmod 2579] \times [32^{16} \bmod 2579] \bmod 2579 \\
&= (1370 \times 1370) \bmod 2579 \\
&= 1876900 \bmod 2579 \\
&= 1967
\end{aligned}$$

$$\begin{aligned}
32^{64} \bmod 2579 &= [32^{32} \bmod 2579] \times [32^{32} \bmod 2579] \bmod 2579 \\
&= (1967 \times 1967) \bmod 2579 \\
&= 3869089 \bmod 2579 \\
&= 589
\end{aligned}$$

$$\begin{aligned}
32^{128} \bmod 2579 &= [32^{64} \bmod 2579] \times [32^{64} \bmod 2579] \bmod 2579 \\
&= (589 \times 589) \bmod 2579 \\
&= 346921 \bmod 2579 \\
&= 1335
\end{aligned}$$

$$\begin{aligned}
32^{256} \bmod 2579 &= [32^{128} \bmod 2579] \times [32^{128} \bmod 2579] \bmod 2579 \\
&= (1335 \times 1335) \bmod 2579 \\
&= 1782225 \bmod 2579 \\
&= 136
\end{aligned}$$

$$32^{512} \bmod 2579 = [32^{256} \bmod 2579] \times [32^{256} \bmod 2579] \bmod 2579$$

$$= (136 \times 136) \bmod 2579$$

$$= 18496 \bmod 2579$$

$$= 443$$

$$32^{1024} \bmod 2579 = [32^{512} \bmod 2579] \times [32^{512} \bmod 2579] \bmod 2579$$

$$= (443 \times 443) \bmod 2579$$

$$= 196249 \bmod 2579$$

$$= 245$$

Menghitung hasil akhir $32^{1813} \bmod 2579$:

$$32^{1813} \bmod 2579 = [32^{1024} \bmod 2579] \times [32^{512} \bmod 2579] \times [32^{256} \bmod 2579] \times [32^{16} \bmod 2579] \times [32^4 \bmod 2579] \times [32^1 \bmod 2579] \bmod 2579$$

$$= (245 \times 443 \times 136 \times 1370 \times 1502 \times 32) \bmod 2579$$

$$= 971961801036800 \bmod 2579$$

$$= 2484$$

$$\text{Perhitungan: } M = (2484 \times 1845) \bmod 2579$$

$$= 4582980 \bmod 2579$$

$$= 97$$

Hasil Dekripsi Blok 14: $y = 2484$, $M = 97$

Blok 15 - Dekripsi dengan $x = 2122$, $y = 662$

$$2122^1 \bmod 2579 = 2122$$

$$2122^2 \bmod 2579 = [2122^1 \bmod 2579] \times [2122^1 \bmod 2579] \bmod 2579$$

$$= (2122 \times 2122) \bmod 2579$$

$$= 4502884 \bmod 2579$$

$$= 2529$$

$$2122^4 \bmod 2579 = [2122^2 \bmod 2579] \times [2122^2 \bmod 2579] \bmod 2579$$

$$= (2529 \times 2529) \bmod 2579$$

$$= 6395841 \bmod 2579$$

$$= 2500$$

$$2122^8 \bmod 2579 = [2122^4 \bmod 2579] \times [2122^4 \bmod 2579] \bmod 2579$$

$$= (2500 \times 2500) \bmod 2579$$

$$= 6250000 \bmod 2579$$

$$= 1083$$

$$2122^{16} \bmod 2579 = [2122^8 \bmod 2579] \times [2122^8 \bmod 2579] \bmod 2579$$

$$= (1083 \times 1083) \bmod 2579$$

$$= 1172889 \bmod 2579$$

$$= 2023$$

$$2122^{32} \bmod 2579 = [2122^{16} \bmod 2579] \times [2122^{16} \bmod 2579] \bmod 2579$$

$$= (2023 \times 2023) \bmod 2579$$

$$= 4092529 \bmod 2579$$

$$= 2235$$

$$2122^{64} \bmod 2579 = [2122^{32} \bmod 2579] \times [2122^{32} \bmod 2579] \bmod 2579$$

$$= (2235 \times 2235) \bmod 2579$$

$$= 4995225 \bmod 2579$$

$$= 2281$$

$$2122^{128} \bmod 2579 = [2122^{64} \bmod 2579] \times [2122^{64} \bmod 2579] \bmod 2579$$

$$= (2281 \times 2281) \bmod 2579$$

$$= 5202961 \bmod 2579$$

$$= 1118$$

$$2122^{256} \bmod 2579 = [2122^{128} \bmod 2579] \times [2122^{128} \bmod 2579] \bmod 2579$$

$$= (1118 \times 1118) \bmod 2579$$

$$= 1249924 \bmod 2579$$

$$= 1688$$

$$2122^{512} \bmod 2579 = [2122^{256} \bmod 2579] \times [2122^{256} \bmod 2579] \bmod 2579$$

$$= (1688 \times 1688) \bmod 2579$$

$$= 2849344 \bmod 2579$$

$$= 2128$$

$$2122^{1024} \bmod 2579 = [2122^{512} \bmod 2579] \times [2122^{512} \bmod 2579] \bmod 2579$$

$$= (2128 \times 2128) \bmod 2579$$

$$= 4528384 \bmod 2579$$

$$= 2239$$

Menghitung hasil akhir $2122^{1813} \bmod 2579$:

$$2122^{1813} \bmod 2579 = [2122^{1024} \bmod 2579] \times [2122^{512} \bmod 2579] \times [2122^{256} \bmod 2579] \times [2122^{16} \bmod 2579] \times [2122^4 \bmod 2579] \times [2122^1 \bmod 2579] \bmod 2579$$

$$= (2239 \times 2128 \times 1688 \times 2023 \times 2500 \times 2122) \bmod 2579$$

$$= 86313639708141440000 \bmod 2579$$

$$= 791$$

$$\text{Perhitungan: } M = (791 \times 662) \bmod 2579$$

$$= 523642 \bmod 2579$$

$$= 105$$

Hasil Dekripsi Blok 15: $y = 791$, $M = 105$

Blok 16 - Dekripsi dengan $a = 2529$, $b = 1561$

$$2529^1 \bmod 2579 = 2529$$

$$2529^2 \bmod 2579 = [2529^1 \bmod 2579] \times [2529^1 \bmod 2579] \bmod 2579$$

$$= (2529 \times 2529) \bmod 2579$$

$$= 6395841 \bmod 2579$$

$$= 2500$$

$$2529^4 \bmod 2579 = [2529^2 \bmod 2579] \times [2529^2 \bmod 2579] \bmod 2579$$

$$= (2500 \times 2500) \bmod 2579$$

$$= 6250000 \bmod 2579$$

$$= 1083$$

$$2529^8 \bmod 2579 = [2529^4 \bmod 2579] \times [2529^4 \bmod 2579] \bmod 2579$$

$$= (1083 \times 1083) \bmod 2579$$

$$= 1172889 \bmod 2579$$

$$= 2023$$

$$2529^{16} \bmod 2579 = [2529^8 \bmod 2579] \times [2529^8 \bmod 2579] \bmod 2579$$

$$= (2023 \times 2023) \bmod 2579$$

$$= 4092529 \bmod 2579$$

$$= 2235$$

$$2529^{32} \bmod 2579 = [2529^{16} \bmod 2579] \times [2529^{16} \bmod 2579] \bmod 2579$$

$$= (2235 \times 2235) \bmod 2579$$

$$= 4995225 \bmod 2579$$

$$= 2281$$

$$2529^{64} \bmod 2579 = [2529^{32} \bmod 2579] \times [2529^{32} \bmod 2579] \bmod 2579$$

$$= (2281 \times 2281) \bmod 2579$$

$$= 5202961 \bmod 2579$$

$$= 1118$$

$$2529^{128} \bmod 2579 = [2529^{64} \bmod 2579] \times [2529^{64} \bmod 2579] \bmod 2579$$

$$= (1118 \times 1118) \bmod 2579$$

$$= 1249924 \bmod 2579$$

$$= 1688$$

$$2529^{256} \bmod 2579 = [2529^{128} \bmod 2579] \times [2529^{128} \bmod 2579] \bmod 2579$$

$$= (1688 \times 1688) \bmod 2579$$

$$= 2849344 \bmod 2579$$

$$= 2128$$

$$2529^{512} \bmod 2579 = [2529^{256} \bmod 2579] \times [2529^{256} \bmod 2579] \bmod 2579$$

$$= (2128 \times 2128) \bmod 2579$$

$$= 4528384 \bmod 2579$$

$$= 2239$$

$$2529^{1024} \bmod 2579 = [2529^{512} \bmod 2579] \times [2529^{512} \bmod 2579] \bmod 2579$$

$$= (2239 \times 2239) \bmod 2579$$

$$= 5013121 \bmod 2579$$

$$= 2124$$

Menghitung hasil akhir $2529^{1813} \bmod 2579$:

$$2529^{1813} \bmod 2579 = [2529^{1024} \bmod 2579] \times [2529^{512} \bmod 2579] \times [2529^{256} \bmod 2579] \times [2529^{16} \bmod 2579] \times [2529^4 \bmod 2579] \times [2529^1 \bmod 2579] \bmod 2579$$

$$= (2124 \times 2239 \times 2128 \times 2235 \times 1083 \times 2529) \bmod 2579$$

$$= 61949105954754500160 \bmod 2579$$

$$= 1563$$

$$\text{Perhitungan: } M = (1563 \times 1561) \bmod 2579$$

$$= 2439843 \bmod 2579$$

$$= 109$$

Hasil Dekripsi Blok 16: $y = 1563$, $M = 109$

Blok 17 - Dekripsi dengan $= 16$, $= 985$

$$16^1 \bmod 2579 = 16$$

$$16^2 \bmod 2579 = [16^1 \bmod 2579] \times [16^1 \bmod 2579] \bmod 2579$$

$$= (16 \times 16) \bmod 2579$$

$$= 256 \bmod 2579$$

$$= 256$$

$$16^4 \bmod 2579 = [16^2 \bmod 2579] \times [16^2 \bmod 2579] \bmod 2579$$

$$= (256 \times 256) \bmod 2579$$

$$= 65536 \bmod 2579$$

$$= 1061$$

$$16^8 \bmod 2579 = [16^4 \bmod 2579] \times [16^4 \bmod 2579] \bmod 2579$$

$$= (1061 \times 1061) \bmod 2579$$

$$= 1125721 \bmod 2579$$

$$= 1277$$

$$16^{16} \bmod 2579 = [16^8 \bmod 2579] \times [16^8 \bmod 2579] \bmod 2579$$

$$= (1277 \times 1277) \bmod 2579$$

$$= 1630729 \bmod 2579$$

$$= 801$$

$$16^{32} \bmod 2579 = [16^{16} \bmod 2579] \times [16^{16} \bmod 2579] \bmod 2579$$

$$= (801 \times 801) \bmod 2579$$

$$= 641601 \bmod 2579$$

$$= 2009$$

$$16^{64} \bmod 2579 = [16^{32} \bmod 2579] \times [16^{32} \bmod 2579] \bmod 2579$$

$$= (2009 \times 2009) \bmod 2579$$

$$= 4036081 \bmod 2579$$

$$= 2525$$

$$16^{128} \bmod 2579 = [16^{64} \bmod 2579] \times [16^{64} \bmod 2579] \bmod 2579$$

$$= (2525 \times 2525) \bmod 2579$$

$$= 6375625 \bmod 2579$$

$$= 337$$

$$16^{256} \bmod 2579 = [16^{128} \bmod 2579] \times [16^{128} \bmod 2579] \bmod 2579$$

$$= (337 \times 337) \bmod 2579$$

$$= 113569 \bmod 2579$$

$$= 93$$

$$16^{512} \bmod 2579 = [16^{256} \bmod 2579] \times [16^{256} \bmod 2579] \bmod 2579$$

$$= (93 \times 93) \bmod 2579$$

$$= 8649 \bmod 2579$$

$$= 912$$

$$16^{1024} \bmod 2579 = [16^{512} \bmod 2579] \times [16^{512} \bmod 2579] \bmod 2579$$

$$= (912 \times 912) \bmod 2579$$

$$= 831744 \bmod 2579$$

$$= 1306$$

Menghitung hasil akhir $16^{1813} \bmod 2579$:

$$16^{1813} \bmod 2579 = [16^{1024} \bmod 2579] \times [16^{512} \bmod 2579] \times [16^{256} \bmod 2579] \times [16^{16} \bmod 2579] \times [16^4 \bmod 2579] \times [16^1 \bmod 2579] \bmod 2579$$

$$= (1306 \times 912 \times 93 \times 801 \times 1061 \times 16) \bmod 2579$$

$$= 1506221513796096 \bmod 2579$$

$$= 110$$

$$\text{Perhitungan: } M = (110 \times 985) \bmod 2579$$

$$= 108350 \bmod 2579$$

$$= 32$$

Hasil Dekripsi Blok 17: $y = 110$, $M = 32$

Blok 18 - Dekripsi dengan $= 1109$, $= 1485$

$$1109^1 \bmod 2579 = 1109$$

$$1109^2 \bmod 2579 = [1109^1 \bmod 2579] \times [1109^1 \bmod 2579] \bmod 2579$$

$$= (1109 \times 1109) \bmod 2579$$

$$= 1229881 \bmod 2579$$

$$= 2277$$

$$1109^4 \bmod 2579 = [1109^2 \bmod 2579] \times [1109^2 \bmod 2579] \bmod 2579$$

$$= (2277 \times 2277) \bmod 2579$$

$$= 5184729 \bmod 2579$$

$$= 939$$

$$1109^8 \bmod 2579 = [1109^4 \bmod 2579] \times [1109^4 \bmod 2579] \bmod 2579$$

$$= (939 \times 939) \bmod 2579$$

$$= 881721 \bmod 2579$$

$$= 2282$$

$$1109^{16} \bmod 2579 = [1109^8 \bmod 2579] \times [1109^8 \bmod 2579] \bmod 2579$$

$$= (2282 \times 2282) \bmod 2579$$

$$= 5207524 \bmod 2579$$

$$= 523$$

$$1109^{32} \bmod 2579 = [1109^{16} \bmod 2579] \times [1109^{16} \bmod 2579] \bmod 2579$$

$$= (523 \times 523) \bmod 2579$$

$$= 273529 \bmod 2579$$

$$= 155$$

$$1109^{64} \bmod 2579 = [1109^{32} \bmod 2579] \times [1109^{32} \bmod 2579] \bmod 2579$$

$$= (155 \times 155) \bmod 2579$$

$$= 24025 \bmod 2579$$

$$= 814$$

$$1109^{128} \bmod 2579 = [1109^{64} \bmod 2579] \times [1109^{64} \bmod 2579] \bmod 2579$$

$$= (814 \times 814) \bmod 2579$$

$$= 662596 \bmod 2579$$

$$= 2372$$

$$1109^{256} \bmod 2579 = [1109^{128} \bmod 2579] \times [1109^{128} \bmod 2579] \bmod 2579$$

$$= (2372 \times 2372) \bmod 2579$$

$$= 5626384 \bmod 2579$$

$$= 1585$$

$$1109^{512} \bmod 2579 = [1109^{256} \bmod 2579] \times [1109^{256} \bmod 2579] \bmod 2579$$

$$= (1585 \times 1585) \bmod 2579$$

$$= 2512225 \bmod 2579$$

$$= 279$$

$$1109^{1024} \bmod 2579 = [1109^{512} \bmod 2579] \times [1109^{512} \bmod 2579] \bmod 2579$$

$$= (279 \times 279) \bmod 2579$$

$$= 77841 \bmod 2579$$

$$= 471$$

Menghitung hasil akhir $1109^{1813} \bmod 2579$:

$$1109^{1813} \bmod 2579 = [1109^{1024} \bmod 2579] \times [1109^{512} \bmod 2579] \times [1109^{256} \bmod 2579] \times [1109^{16} \bmod 2579] \times [1109^4 \bmod 2579] \times [1109^1 \bmod 2579] \bmod 2579$$

$$= (471 \times 279 \times 1585 \times 523 \times 939 \times 1109) \bmod 2579$$

$$= 113436600830200845 \bmod 2579$$

$$= 73$$

$$\text{Perhitungan: } M = (73 \times 1485) \bmod 2579$$

$$= 108405 \bmod 2579$$

$$= 87$$

Hasil Dekripsi Blok 18: $y = 73$, $M = 87$

Blok 19 - Dekripsi dengan $= 1779$, $= 1258$

$$1779^1 \bmod 2579 = 1779$$

$$1779^2 \bmod 2579 = [1779^1 \bmod 2579] \times [1779^1 \bmod 2579] \bmod 2579$$

$$= (1779 \times 1779) \bmod 2579$$

$$= 3164841 \bmod 2579$$

$$= 408$$

$$1779^4 \bmod 2579 = [1779^2 \bmod 2579] \times [1779^2 \bmod 2579] \bmod 2579$$

$$= (408 \times 408) \bmod 2579$$

$$= 166464 \bmod 2579$$

$$= 1408$$

$$1779^8 \bmod 2579 = [1779^4 \bmod 2579] \times [1779^4 \bmod 2579] \bmod 2579$$

$$= (1408 \times 1408) \bmod 2579$$

$$= 1982464 \bmod 2579$$

$$= 1792$$

$$1779^{16} \bmod 2579 = [1779^8 \bmod 2579] \times [1779^8 \bmod 2579] \bmod 2579$$

$$= (1792 \times 1792) \bmod 2579$$

$$= 3211264 \bmod 2579$$

$$= 409$$

$$1779^{32} \bmod 2579 = [1779^{16} \bmod 2579] \times [1779^{16} \bmod 2579] \bmod 2579$$

$$= (409 \times 409) \bmod 2579$$

$$= 167281 \bmod 2579$$

$$= 2225$$

$$1779^{64} \bmod 2579 = [1779^{32} \bmod 2579] \times [1779^{32} \bmod 2579] \bmod 2579$$

$$= (2225 \times 2225) \bmod 2579$$

$$= 4950625 \bmod 2579$$

$$= 1524$$

$$1779^{128} \bmod 2579 = [1779^{64} \bmod 2579] \times [1779^{64} \bmod 2579] \bmod 2579$$

$$= (1524 \times 1524) \bmod 2579$$

$$= 2322576 \bmod 2579$$

$$= 1476$$

$$1779^{256} \bmod 2579 = [1779^{128} \bmod 2579] \times [1779^{128} \bmod 2579] \bmod 2579$$

$$= (1476 \times 1476) \bmod 2579$$

$$= 2178576 \bmod 2579$$

$$= 1900$$

$$1779^{512} \bmod 2579 = [1779^{256} \bmod 2579] \times [1779^{256} \bmod 2579] \bmod 2579$$

$$= (1900 \times 1900) \bmod 2579$$

$$= 3610000 \bmod 2579$$

$$= 1979$$

$$1779^{1024} \bmod 2579 = [1779^{512} \bmod 2579] \times [1779^{512} \bmod 2579] \bmod 2579$$

$$= (1979 \times 1979) \bmod 2579$$

$$= 3916441 \bmod 2579$$

$$= 1519$$

Menghitung hasil akhir $1779^{1813} \bmod 2579$:

$$1779^{1813} \bmod 2579 = [1779^{1024} \bmod 2579] \times [1779^{512} \bmod 2579] \times [1779^{256} \bmod 2579] \times [1779^{16} \bmod 2579] \times [1779^4 \bmod 2579] \times [1779^1 \bmod 2579] \bmod 2579$$

$$= (1519 \times 1979 \times 1900 \times 409 \times 1408 \times 1779) \bmod 2579$$

$$= 5851390468282867200 \bmod 2579$$

$$= 1716$$

$$\text{Perhitungan: } M = (1716 \times 1258) \bmod 2579$$

$$= 2158728 \bmod 2579$$

$$= 105$$

Hasil Dekripsi Blok 19: $y = 1716$, $M = 105$

Blok 20 - Dekripsi dengan $a = 482$, $b = 329$

$$482^1 \bmod 2579 = 482$$

$$482^2 \bmod 2579 = [482^1 \bmod 2579] \times [482^1 \bmod 2579] \bmod 2579$$

$$= (482 \times 482) \bmod 2579$$

$$= 232324 \bmod 2579$$

$$= 214$$

$$482^4 \bmod 2579 = [482^2 \bmod 2579] \times [482^2 \bmod 2579] \bmod 2579$$

$$= (214 \times 214) \bmod 2579$$

$$= 45796 \bmod 2579$$

$$= 1953$$

$$482^8 \bmod 2579 = [482^4 \bmod 2579] \times [482^4 \bmod 2579] \bmod 2579$$

$$= (1953 \times 1953) \bmod 2579$$

$$= 3814209 \bmod 2579$$

$$= 2447$$

$$482^{16} \bmod 2579 = [482^8 \bmod 2579] \times [482^8 \bmod 2579] \bmod 2579$$

$$= (2447 \times 2447) \bmod 2579$$

$$= 5987809 \bmod 2579$$

$$= 1950$$

$$482^{32} \bmod 2579 = [482^{16} \bmod 2579] \times [482^{16} \bmod 2579] \bmod 2579$$

$$= (1950 \times 1950) \bmod 2579$$

$$= 3802500 \bmod 2579$$

$$= 1054$$

$$482^{64} \bmod 2579 = [482^{32} \bmod 2579] \times [482^{32} \bmod 2579] \bmod 2579$$

$$= (1054 \times 1054) \bmod 2579$$

$$= 1110916 \bmod 2579$$

$$= 1946$$

$$482^{128} \bmod 2579 = [482^{64} \bmod 2579] \times [482^{64} \bmod 2579] \bmod 2579$$

$$= (1946 \times 1946) \bmod 2579$$

$$= 3786916 \bmod 2579$$

$$= 944$$

$$482^{256} \bmod 2579 = [482^{128} \bmod 2579] \times [482^{128} \bmod 2579] \bmod 2579$$

$$= (944 \times 944) \bmod 2579$$

$$= 891136 \bmod 2579$$

$$= 1381$$

$$482^{512} \bmod 2579 = [482^{256} \bmod 2579] \times [482^{256} \bmod 2579] \bmod 2579$$

$$= (1381 \times 1381) \bmod 2579$$

$$= 1907161 \bmod 2579$$

$$= 1280$$

$$482^{1024} \bmod 2579 = [482^{512} \bmod 2579] \times [482^{512} \bmod 2579] \bmod 2579$$

$$= (1280 \times 1280) \bmod 2579$$

$$= 1638400 \bmod 2579$$

$$= 735$$

Menghitung hasil akhir $482^{1813} \bmod 2579$:

$$482^{1813} \bmod 2579 = [482^{1024} \bmod 2579] \times [482^{512} \bmod 2579] \times [482^{256} \bmod 2579] \times [482^{16} \bmod 2579] \times [482^4 \bmod 2579] \times [482^1 \bmod 2579] \bmod 2579$$

$$= (735 \times 1280 \times 1381 \times 1950 \times 1953 \times 482) \bmod 2579$$

$$= 2384925846226560000 \bmod 2579$$

$$= 988$$

$$\text{Perhitungan: } M = (988 \times 329) \bmod 2579$$

$$= 325052 \bmod 2579$$

$$= 98$$

Hasil Dekripsi Blok 20: $y = 988$, $M = 98$

Blok 21 - Dekripsi dengan $a = 32$, $b = 1492$

$$32^1 \bmod 2579 = 32$$

$$32^2 \bmod 2579 = [32^1 \bmod 2579] \times [32^1 \bmod 2579] \bmod 2579$$

$$= (32 \times 32) \bmod 2579$$

$$= 1024 \bmod 2579$$

$$= 1024$$

$$32^4 \bmod 2579 = [32^2 \bmod 2579] \times [32^2 \bmod 2579] \bmod 2579$$

$$= (1024 \times 1024) \bmod 2579$$

$$= 1048576 \bmod 2579$$

$$= 1502$$

$$32^8 \bmod 2579 = [32^4 \bmod 2579] \times [32^4 \bmod 2579] \bmod 2579$$

$$= (1502 \times 1502) \bmod 2579$$

$$= 2256004 \bmod 2579$$

$$= 1958$$

$$32^{16} \bmod 2579 = [32^8 \bmod 2579] \times [32^8 \bmod 2579] \bmod 2579$$

$$= (1958 \times 1958) \bmod 2579$$

$$= 3833764 \bmod 2579$$

$$= 1370$$

$$32^{32} \bmod 2579 = [32^{16} \bmod 2579] \times [32^{16} \bmod 2579] \bmod 2579$$

$$= (1370 \times 1370) \bmod 2579$$

$$= 1876900 \bmod 2579$$

$$= 1967$$

$$32^{64} \bmod 2579 = [32^{32} \bmod 2579] \times [32^{32} \bmod 2579] \bmod 2579$$

$$= (1967 \times 1967) \bmod 2579$$

$$= 3869089 \bmod 2579$$

$$= 589$$

$$32^{128} \bmod 2579 = [32^{64} \bmod 2579] \times [32^{64} \bmod 2579] \bmod 2579$$

$$= (589 \times 589) \bmod 2579$$

$$= 346921 \bmod 2579$$

$$= 1335$$

$$32^{256} \bmod 2579 = [32^{128} \bmod 2579] \times [32^{128} \bmod 2579] \bmod 2579$$

$$= (1335 \times 1335) \bmod 2579$$

$$= 1782225 \bmod 2579$$

$$= 136$$

$$32^{512} \bmod 2579 = [32^{256} \bmod 2579] \times [32^{256} \bmod 2579] \bmod 2579$$

$$= (136 \times 136) \bmod 2579$$

$$= 18496 \bmod 2579$$

$$= 443$$

$$32^{1024} \bmod 2579 = [32^{512} \bmod 2579] \times [32^{512} \bmod 2579] \bmod 2579$$

$$= (443 \times 443) \bmod 2579$$

$$= 196249 \bmod 2579$$

$$= 245$$

Menghitung hasil akhir $32^{1813} \bmod 2579$:

$$32^{1813} \bmod 2579 = [32^{1024} \bmod 2579] \times [32^{512} \bmod 2579] \times [32^{256} \bmod 2579] \times [32^{16} \bmod 2579] \times [32^4 \bmod 2579] \times [32^1 \bmod 2579] \bmod 2579$$

$$= (245 \times 443 \times 136 \times 1370 \times 1502 \times 32) \bmod 2579$$

$$= 971961801036800 \bmod 2579$$

$$= 2484$$

$$\text{Perhitungan: } M = (2484 \times 1492) \bmod 2579$$

$$= 3706128 \bmod 2579$$

$$= 105$$

Hasil Dekripsi Blok 21: $y = 2484$, $M = 105$

Blok 22 - Dekripsi dengan $a = 1024$, $b = 783$

$$1024^1 \bmod 2579 = 1024$$

$$1024^2 \bmod 2579 = [1024^1 \bmod 2579] \times [1024^1 \bmod 2579] \bmod 2579$$

$$= (1024 \times 1024) \bmod 2579$$

$$= 1048576 \bmod 2579$$

$$= 1502$$

$$1024^4 \bmod 2579 = [1024^2 \bmod 2579] \times [1024^2 \bmod 2579] \bmod 2579$$

$$= (1502 \times 1502) \bmod 2579$$

$$= 2256004 \bmod 2579$$

$$= 1958$$

$$1024^8 \bmod 2579 = [1024^4 \bmod 2579] \times [1024^4 \bmod 2579] \bmod 2579$$

$$= (1958 \times 1958) \bmod 2579$$

$$= 3833764 \bmod 2579$$

$$= 1370$$

$$1024^{16} \bmod 2579 = [1024^8 \bmod 2579] \times [1024^8 \bmod 2579] \bmod 2579$$

$$= (1370 \times 1370) \bmod 2579$$

$$= 1876900 \bmod 2579$$

$$= 1967$$

$$1024^{32} \bmod 2579 = [1024^{16} \bmod 2579] \times [1024^{16} \bmod 2579] \bmod 2579$$

$$= (1967 \times 1967) \bmod 2579$$

$$= 3869089 \bmod 2579$$

$$= 589$$

$$1024^{64} \bmod 2579 = [1024^{32} \bmod 2579] \times [1024^{32} \bmod 2579] \bmod 2579$$

$$= (589 \times 589) \bmod 2579$$

$$= 346921 \bmod 2579$$

$$= 1335$$

$$1024^{128} \bmod 2579 = [1024^{64} \bmod 2579] \times [1024^{64} \bmod 2579] \bmod 2579$$

$$= (1335 \times 1335) \bmod 2579$$

$$= 1782225 \bmod 2579$$

$$= 136$$

$$1024^{256} \bmod 2579 = [1024^{128} \bmod 2579] \times [1024^{128} \bmod 2579] \bmod 2579$$

$$= (136 \times 136) \bmod 2579$$

$$= 18496 \bmod 2579$$

$$= 443$$

$$1024^{512} \bmod 2579 = [1024^{256} \bmod 2579] \times [1024^{256} \bmod 2579] \bmod 2579$$

$$= (443 \times 443) \bmod 2579$$

$$= 196249 \bmod 2579$$

$$= 245$$

$$1024^{1024} \bmod 2579 = [1024^{512} \bmod 2579] \times [1024^{512} \bmod 2579] \bmod 2579$$

$$= (245 \times 245) \bmod 2579$$

$$= 60025 \bmod 2579$$

$$= 708$$

Menghitung hasil akhir $1024^{1813} \bmod 2579$:

$$1024^{1813} \bmod 2579 = [1024^{1024} \bmod 2579] \times [1024^{512} \bmod 2579] \times [1024^{256} \bmod 2579] \times [1024^{16} \bmod 2579] \times [1024^4 \bmod 2579] \times [1024^1 \bmod 2579] \bmod 2579$$

$$= (708 \times 245 \times 443 \times 1967 \times 1958 \times 1024) \bmod 2579$$

$$= 303054036063313920 \bmod 2579$$

$$= 1288$$

Perhitungan: $M = (1288 \times 783) \bmod 2579$

$= 1008504 \bmod 2579$

$= 115$

Hasil Dekripsi Blok 22: $y = 1288$, $M = 115$

Blok 23 - Dekripsi dengan $= 1779$, $= 1772$

$1779^1 \bmod 2579 = 1779$

$1779^2 \bmod 2579 = [1779^1 \bmod 2579] \times [1779^1 \bmod 2579] \bmod 2579$

$= (1779 \times 1779) \bmod 2579$

$= 3164841 \bmod 2579$

$= 408$

$1779^4 \bmod 2579 = [1779^2 \bmod 2579] \times [1779^2 \bmod 2579] \bmod 2579$

$= (408 \times 408) \bmod 2579$

$= 166464 \bmod 2579$

$= 1408$

$1779^8 \bmod 2579 = [1779^4 \bmod 2579] \times [1779^4 \bmod 2579] \bmod 2579$

$= (1408 \times 1408) \bmod 2579$

$= 1982464 \bmod 2579$

$= 1792$

$1779^{16} \bmod 2579 = [1779^8 \bmod 2579] \times [1779^8 \bmod 2579] \bmod 2579$

$= (1792 \times 1792) \bmod 2579$

$= 3211264 \bmod 2579$

$= 409$

$1779^{32} \bmod 2579 = [1779^{16} \bmod 2579] \times [1779^{16} \bmod 2579] \bmod 2579$

$= (409 \times 409) \bmod 2579$

$= 167281 \bmod 2579$

$= 2225$

$1779^{64} \bmod 2579 = [1779^{32} \bmod 2579] \times [1779^{32} \bmod 2579] \bmod 2579$

$= (2225 \times 2225) \bmod 2579$

$= 4950625 \bmod 2579$

$$= 1524$$

$$1779^{128} \bmod 2579 = [1779^{64} \bmod 2579] \times [1779^{64} \bmod 2579] \bmod 2579$$

$$= (1524 \times 1524) \bmod 2579$$

$$= 2322576 \bmod 2579$$

$$= 1476$$

$$1779^{256} \bmod 2579 = [1779^{128} \bmod 2579] \times [1779^{128} \bmod 2579] \bmod 2579$$

$$= (1476 \times 1476) \bmod 2579$$

$$= 2178576 \bmod 2579$$

$$= 1900$$

$$1779^{512} \bmod 2579 = [1779^{256} \bmod 2579] \times [1779^{256} \bmod 2579] \bmod 2579$$

$$= (1900 \times 1900) \bmod 2579$$

$$= 3610000 \bmod 2579$$

$$= 1979$$

$$1779^{1024} \bmod 2579 = [1779^{512} \bmod 2579] \times [1779^{512} \bmod 2579] \bmod 2579$$

$$= (1979 \times 1979) \bmod 2579$$

$$= 3916441 \bmod 2579$$

$$= 1519$$

Menghitung hasil akhir $1779^{1813} \bmod 2579$:

$$1779^{1813} \bmod 2579 = [1779^{1024} \bmod 2579] \times [1779^{512} \bmod 2579] \times [1779^{256} \bmod 2579] \times [1779^{16} \bmod 2579] \times [1779^4 \bmod 2579] \times [1779^1 \bmod 2579] \bmod 2579$$

$$= (1519 \times 1979 \times 1900 \times 409 \times 1408 \times 1779) \bmod 2579$$

$$= 5851390468282867200 \bmod 2579$$

$$= 1716$$

$$\text{Perhitungan: } M = (1716 \times 1772) \bmod 2579$$

$$= 3040752 \bmod 2579$$

$$= 111$$

Hasil Dekripsi Blok 23: $y = 1716$, $M = 111$

Blok 24 - Dekripsi dengan $= 821$, $= 287$

$$821^1 \bmod 2579 = 821$$

$$821^2 \bmod 2579 = [821^1 \bmod 2579] \times [821^1 \bmod 2579] \bmod 2579$$

$$= (821 \times 821) \bmod 2579$$

$$= 674041 \bmod 2579$$

$$= 922$$

$$821^4 \bmod 2579 = [821^2 \bmod 2579] \times [821^2 \bmod 2579] \bmod 2579$$

$$= (922 \times 922) \bmod 2579$$

$$= 850084 \bmod 2579$$

$$= 1593$$

$$821^8 \bmod 2579 = [821^4 \bmod 2579] \times [821^4 \bmod 2579] \bmod 2579$$

$$= (1593 \times 1593) \bmod 2579$$

$$= 2537649 \bmod 2579$$

$$= 2492$$

$$821^{16} \bmod 2579 = [821^8 \bmod 2579] \times [821^8 \bmod 2579] \bmod 2579$$

$$= (2492 \times 2492) \bmod 2579$$

$$= 6210064 \bmod 2579$$

$$= 2411$$

$$821^{32} \bmod 2579 = [821^{16} \bmod 2579] \times [821^{16} \bmod 2579] \bmod 2579$$

$$= (2411 \times 2411) \bmod 2579$$

$$= 5812921 \bmod 2579$$

$$= 2434$$

$$821^{64} \bmod 2579 = [821^{32} \bmod 2579] \times [821^{32} \bmod 2579] \bmod 2579$$

$$= (2434 \times 2434) \bmod 2579$$

$$= 5924356 \bmod 2579$$

$$= 393$$

$$821^{128} \bmod 2579 = [821^{64} \bmod 2579] \times [821^{64} \bmod 2579] \bmod 2579$$

$$= (393 \times 393) \bmod 2579$$

$$= 154449 \bmod 2579$$

$$= 2288$$

$$\begin{aligned}
821^{256} \bmod 2579 &= [821^{128} \bmod 2579] \times [821^{128} \bmod 2579] \bmod 2579 \\
&= (2288 \times 2288) \bmod 2579 \\
&= 5234944 \bmod 2579 \\
&= 2153
\end{aligned}$$

$$\begin{aligned}
821^{512} \bmod 2579 &= [821^{256} \bmod 2579] \times [821^{256} \bmod 2579] \bmod 2579 \\
&= (2153 \times 2153) \bmod 2579 \\
&= 4635409 \bmod 2579 \\
&= 946
\end{aligned}$$

$$\begin{aligned}
821^{1024} \bmod 2579 &= [821^{512} \bmod 2579] \times [821^{512} \bmod 2579] \bmod 2579 \\
&= (946 \times 946) \bmod 2579 \\
&= 894916 \bmod 2579 \\
&= 3
\end{aligned}$$

Menghitung hasil akhir $821^{1813} \bmod 2579$:

$$\begin{aligned}
821^{1813} \bmod 2579 &= [821^{1024} \bmod 2579] \times [821^{512} \bmod 2579] \times [821^{256} \bmod 2579] \times \\
&\quad [821^{16} \bmod 2579] \times [821^4 \bmod 2579] \times [821^1 \bmod 2579] \bmod 2579 \\
&= (3 \times 946 \times 2153 \times 2411 \times 1593 \times 821) \bmod 2579 \\
&= 19266931984116762 \bmod 2579 \\
&= 1537
\end{aligned}$$

$$\begin{aligned}
\text{Perhitungan: } M &= (1537 \times 287) \bmod 2579 \\
&= 441119 \bmod 2579 \\
&= 110
\end{aligned}$$

Hasil Dekripsi Blok 24: $y = 1537$, $M = 110$

Blok 25 - Dekripsi dengan $= 979$, $= 120$

$$\begin{aligned}
979^1 \bmod 2579 &= 979 \\
979^2 \bmod 2579 &= [979^1 \bmod 2579] \times [979^1 \bmod 2579] \bmod 2579 \\
&= (979 \times 979) \bmod 2579 \\
&= 958441 \bmod 2579 \\
&= 1632
\end{aligned}$$

$$979^4 \bmod 2579 = [979^2 \bmod 2579] \times [979^2 \bmod 2579] \bmod 2579$$

$$= (1632 \times 1632) \bmod 2579$$

$$= 2663424 \bmod 2579$$

$$= 1896$$

$$979^8 \bmod 2579 = [979^4 \bmod 2579] \times [979^4 \bmod 2579] \bmod 2579$$

$$= (1896 \times 1896) \bmod 2579$$

$$= 3594816 \bmod 2579$$

$$= 2269$$

$$979^{16} \bmod 2579 = [979^8 \bmod 2579] \times [979^8 \bmod 2579] \bmod 2579$$

$$= (2269 \times 2269) \bmod 2579$$

$$= 5148361 \bmod 2579$$

$$= 677$$

$$979^{32} \bmod 2579 = [979^{16} \bmod 2579] \times [979^{16} \bmod 2579] \bmod 2579$$

$$= (677 \times 677) \bmod 2579$$

$$= 458329 \bmod 2579$$

$$= 1846$$

$$979^{64} \bmod 2579 = [979^{32} \bmod 2579] \times [979^{32} \bmod 2579] \bmod 2579$$

$$= (1846 \times 1846) \bmod 2579$$

$$= 3407716 \bmod 2579$$

$$= 857$$

$$979^{128} \bmod 2579 = [979^{64} \bmod 2579] \times [979^{64} \bmod 2579] \bmod 2579$$

$$= (857 \times 857) \bmod 2579$$

$$= 734449 \bmod 2579$$

$$= 2013$$

$$979^{256} \bmod 2579 = [979^{128} \bmod 2579] \times [979^{128} \bmod 2579] \bmod 2579$$

$$= (2013 \times 2013) \bmod 2579$$

$$= 4052169 \bmod 2579$$

$$= 560$$

$$979^{512} \bmod 2579 = [979^{256} \bmod 2579] \times [979^{256} \bmod 2579] \bmod 2579$$

$$= (560 \times 560) \bmod 2579$$

$$= 313600 \bmod 2579$$

$$= 1541$$

$$979^{1024} \bmod 2579 = [979^{512} \bmod 2579] \times [979^{512} \bmod 2579] \bmod 2579$$

$$= (1541 \times 1541) \bmod 2579$$

$$= 2374681 \bmod 2579$$

$$= 2001$$

Menghitung hasil akhir $979^{1813} \bmod 2579$:

$$979^{1813} \bmod 2579 = [979^{1024} \bmod 2579] \times [979^{512} \bmod 2579] \times [979^{256} \bmod 2579] \times [979^{16} \bmod 2579] \times [979^4 \bmod 2579] \times [979^1 \bmod 2579] \bmod 2579$$

$$= (2001 \times 1541 \times 560 \times 677 \times 1896 \times 979) \bmod 2579$$

$$= 2169938612535281280 \bmod 2579$$

$$= 1097$$

$$\text{Perhitungan: } M = (1097 \times 120) \bmod 2579$$

$$= 131640 \bmod 2579$$

$$= 111$$

Hasil Dekripsi Blok 25: $y = 1097$, $M = 111$