Nama : Ibrahim Dafi Iskandar
NPM : 140810210039
Kelas : A

Tugas 2 Praktikum Kriptografi

Enkripsikan nama lengkap anda menggunakan Affine Cipher dan kembalikan menjadi plainteks, a=9 b=[2 digit NPM akhir]

Jawab:

Nama = IBRAHIM DAFI ISKANDAR
a = 9
b = 39

I	B	R	A	H	I	M	D	A	F	I	I	S	K	A	N	D	A	R
8	1	17	0	7	8	12	3	0	5	8	18	10	0	0	13	3	0	17

Enkripsi

E(8) = (9(8) + 39) mod 26 = 7 => H
E(1) = (9(1) + 39) mod 26 = 22 => W
E(17) = (9(17) + 39) mod 26 = 10 => K
E(0) = (9(0) + 39) mod 26 = 13 => N
E(7) = (9(7) + 39) mod 26 = 24 => Y
E(8) = (9(8) + 39) mod 26 = 7 => H
E(12) =(9(8) + 39) mod 26 =12 →R

E(3) = (9(3) + 39) mod 26 = 14 => O
E(0) = (9(0) + 39) mod 26 = 13 => N
E(5) = (9(5) + 39) mod 26 = 6 => G
E(8) = (9(8) + 39) mod 26 = 7 => H

E(8) = (9(8) + 39) mod 26 = 7 => W
E(10) = (9(10) + 39) mod 26 = 19 => D
E(0) = (9(0) + 39) mod 26 = 25 => Y
E(0) = (9(0) + 39) mod 26 = 13 => E
E(13) = (9(13) + 39) mod 26 = 0 => X
E(3) =(9(3)+39)mod 26 =14 →O
E(0) =(9(0)+39)mod 26 =13 →N
E(17) =(9(17)+39)mod 26 =10 →K
Hasil enkripsi (E) = HWKNYHR ONGH WDYEXONK

Dekripsi

H	W	K	N	Y	H	R	O	N	G	H	H	T	Z	N	A	O	N	K
7	22	10	13	24	7	17	14	13	6	7	7	19	25	13	0	14	13	10

gcd(9,26)
26 = 9 * 2 + 8
9 = 8 * 1 + 1
8 = 1 * 8 + 0

t0 = 0
t1 = 1
t2 = (0 - (2*1)) mod 26 = -2 mod 26 = 24
t3 = (1 - (1*24)) mod 26 = -23 mod 26 = 3
a-1 = 3

D(7) = 3(7 - 39) mod 26 = 8 => I
D(1) = 3(1 - 39) mod 26 = 1 => B
D(17) = 3(10 - 39) mod 26 = 17 => R
D(13) = 3(13 - 39) mod 26 = 8 => A
D(24) = 3(24 - 39) mod 26 = 7 => H
D(7) = 3(7 - 39) mod 26 = 8 => I
D(17) =(3(17-39)mod 26 =12 →12

D(14) = 3(14 - 39) mod 26 = 3 => D
D(13) = 3(13 - 39) mod 26 = 0 => A
D(6) = 3(6 - 39) mod 26 = 5 => F
D(7) = 3(7 - 39) mod 26 = 8 => I

D(7) = 3(7 - 39) mod 26 = 8 => I
D(19) = 3(19 - 39) mod 26 = 18 => S
D(25) = 3(25 - 39) mod 26 = 10 => K
D(13) = 3(13 - 39) mod 26 = 0 => A
D(0) = 3(0 - 39) mod 26 = 13 => N
D(14) = 3(14 - 39) mod 26 = 3 →D
D(13) = 3(13 - 39) mod 26 = 0 →A
D(10) = 3(10 - 39) mod 26 = 17 →R
Hasil dekripsi (D) = IBRAHIM DAFI ISKANDAR