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Tugas Pertemuan ke-2

1. Exercise Praktikum

   Caesar Cipher

   E C L   I P S E
   4 2 11 8 15 18 4
   K = 18

   Enkripsi

   $E(x) = (4 + 18) \bmod 26 = 22 \bmod 26 = 22$

   = W
   $E(x) = (2 + 18) \bmod 26 = 20 \bmod 26 = 20$

   = U
   $E(x) = (11 + 18) \bmod 26 = 29 \bmod 26 = 3$

   = D
   $E(x) = (8 + 18) \bmod 26 = 26 \bmod 26 = 0$

   = A
   $E(x) = (15 + 18) \bmod 26 = 33 \bmod 26 = 7$

   = H
   $E(x) = (18 + 18) \bmod 26 = 36 \bmod 26 = 10$

   = K
   $E(x) = (4 + 18) \bmod 26 = 22 \bmod 26 = 22$

   = W

   Enkripsi ECLIPSE =WUDAHKW

   WYHRRYPWAVRLYLUQVD
   W(22) Y(24) H(7) R(17) R(17) Y(24) P(15) W(22) A(0) V(21) R(17) L(11) Y(24) L(20) U(16) Q() V(21)

D(3)
K = 7

D(x) = (22 – 7) mod 26 = 15 mod 26 = 15

= P
D(x) = (24 – 7) mod 26 = 17 mod 26 = 17

= R
D(x) = (7 – 7) mod 26 = 0 mod 26 = 0

= A
D(x) = (17 – 7) mod 26 = 10 mod 26 = 10

= K
D(x) = (17 – 7) mod 26 = 10 mod 26 = 10

= K
D(x) = (24 – 7) mod 26 = 17 mod 26 = 17

= R
D(x) = (15 – 7) mod 26 = 8 mod 26 = 8

= I
D(x) = (22 – 7) mod 26 = 15 mod 26 = 15

= P
D(x) = (0 – 7) mod 26 = -7 mod 26 = 19

= T
D(x) = (21 – 7) mod 26 = 14 mod 26 = 14

= O
D(x) = (17 – 7) mod 26 = 10 mod 26 = 10

= K
D(x) = (11 – 7) mod 26 = 4 mod 26 = 4

= E
D(x) = (24 – 7) mod 26 = 17 mod 26 = 17

= R
D(x) = (11 – 7) mod 26 = 4 mod 26 = 4

= E
D(x) = (20 – 7) mod 26 = 13 mod 26 = 13

= N
D(x) = (16 – 7) mod 26 = 9 mod 26 = 9

= J
D(x) = (21 – 7) mod 26 = 14 mod 26 = 14

= O

D(x) = (3 – 7) mod 26 = -4 mod 26 = 22

= W

Dekripsi WYHRRYPWAVRLYLUQVD = PRAKKRIPTOKERNJOW

- Root 13

  VSRFGUNPRC
  21 18 17 5 6 20 13 15 17 2
  K = 13

  Dekripsi

  D(x) = (21 – 13) mod 26 = 8 mod 26 = 8

  = I

  D(x) = (18 – 13) mod 26 = 5 mod 26 = 5

  = F

  D(x) = (17 – 13) mod 26 = 4 mod 26 = 4

  = E

  D(x) = (5 – 13) mod 26 = -8 mod 26 = 18

  = S

  D(x) = (6 – 13) mod 26 = -7 mod 26 = 19

  = T

  D(x) = (20 – 13) mod 26 = 7 mod 26 = 7

  = H

  D(x) = (13 – 13) mod 26 = 0 mod 26 = 0

  = A

  D(x) = (15 – 13) mod 26 = 2 mod 26 = 2

  = C

  D(x) = (17 – 13) mod 26 = 4 mod 26 = 4

  = E

  D(x) = (2 – 13) mod 26 = -11 mod 26 = 15

  = P

  VSRFGUNPRC -> D(x) -> IFESTHACEP

2. Tugas bikin kalimat minimal 3 kata dan minimal 15 huruf kemudian ekripsi dan dekripsi menggunakan affine cipher!

HIMATIF FMIPA UNPAD
H(7) I(8) M(12) A(0) T(19) I(8) F(5) F(5) M(12) I(8) P(15) A(0) U(20) N(13) P(15) A(0) D(3)

a = 7, b = 10
K = (7,10) -> 7-1 mod 26 = 15
Enkrip (E(x) = (7x+10) mod 26)

E(7) =(7.7 + 10) mod 26 = 59 mod 26= 7 -> H
E(8) =(7.8+10)mod 26 = 66 mod 26 = 14 -> O
E(12)=(7.12+10) mod 26 = 94 mod 26= 16 -> Q
E(0)= (7.0+10) mod 26 = 10 mod 26= 10 -> K
E(19)=(7.19+10) mod 26 = 133 mod 26 = 3 -> D
E(8) =(7.8+10)mod 26 = 66 mod 26 = 14 -> O
E(5)= (7.5+10) mod 26 = 45 mod 26 = 19 -> T
E(5)= (7.5+10) mod 26 = 45 mod 26 = 19 -> T
E(12)=(7.12+10) mod 26 = 94 mod 26= 16 -> Q
E(8) =(7.8+10)mod 26 = 66 mod 26 = 14 -> O
E(15)=(7.15+10) mod 26 = 115 mod 26 = 25 -> Z
E(0)= (7.0+10) mod 26 = 10 mod 26= 10 -> K
E(20)=(7.20+10) mod 26 = 150 mod 26 = 20 ->U
E(13)=(7.13+10) mod 26 = 101 mod 26 = 23 -> X
E(15)=(7.15+10) mod 26 = 115 mod 26 = 25 -> Z
E(0)= (7.0+10) mod 26 = 10 mod 26= 10 -> K
E(3)=(7.3+10) mod 26 = 31 mod 26 = 5 -> F

Enkripsi
HIMATIF FMIPA UNPAD= HOQKDOTTQOZKUXZKF