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(a) Monoalphabetic Cipher

Message:

The projects studied: the design and analysis of encryption algorithms, real-time compression and encryption of information in multi-media network, formal analysis of cryptographic protocols and finite automation cryptography.

Cipher Text:

FCN JKYUNAFL LFIOXNO: FCN ONLXQZ PZO PZPESLXL YD NZAKSJFXYZ PEQYKXFCWL KNPE-FXWN AYWJKNLLXYZ PZO NZAKSJFXYZ YD XZDYKWPFXYZ XZ WIEFX-WNOXP ZNFRYKT DYKWPE PZPESLXL YD AKSJFYQKPJCXA JKYFYAYEL PZO DXZXFN PIFYWPFXYZ AKSJFYQKPJCS

STEPS OF CONVERSION:

1. First of all make a table for substituting the characters. For example look a the following table:

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Encryption	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C

2. Remember this is not necessary we should use the same table in our above given text to be encoded.
3. Now substitute the each alphabet of the given Plain Text alphabets with the encrypted Text Alphabets.
4. The resultant text is Cipher Text of the given sentence

(b) Playfair Cipher

Keyword:

YASIR

Message:

The projects studied: the design and analysis of encryption algorithms, real-time compression and encryption of information in multi-media network, formal analysis of cryptographic protocols and finite automation cryptography.

Cipher Text:

si ku tm kd ds xc tu te kd iy kc ea th hm cl eb lc ov th tn ka sh tw ou ot lc mf mt oy gn ts ab oq go ad pn mu cu th po cl ea sh tw ou ot op gk lh mt lb yo po ho pr oq go ae fd pc ry mt fg mt lb qf lc ov th tn ha tw ou mi qb nk hd mu ty nd pm qc oc gk oh ud eq yt lb yo po bs zo yt mw el ix

STEPS OF CONVERSION:

1. First of all Make a 5 x 5 Matrix.
2. Choose a keyword (Here we have YASIR)
3. Enter characters of keyword in 5 x 5 matrix row-wise from Left to Right.
4. Fill remaining spaces in Matrix with rest of English alphabets.
5. Combine I and J in same cell.
6. Now break the Plain Text in group of two alphabets.
7. If both alphabets are same (or only 1 is left) add an X after first alphabet.
8. If both the alphabets in the pair appear in the same row of matrix, replace them with alphabets to their immediate Right alphabet.
9. If both the alphabets in the pair appear in the same Column replace with alphabets immediately below alphabet.
10. If the alphabets are not in same Row or Column, replace them with alphabets in the same Row but at other pair of the corners.
11. The resultant text is Cipher Text of the given sentence

(c) Vigenere Cipher

Keyword:

YASIR

Message:

The projects studied: the design and analysis of encryption algorithms, real-time compression and encryption of information in multi-media network, formal analysis of cryptographic protocols and finite automation cryptography

Cipher Text:

rhwximjwkkqslcugevbycdwazensvuynstpqikwwcnuzpntaweylywigtzujpestk
gmwkfkpjmjqigvrldwvtpyhbzmngnzlfgzdytawegneccriemugafmkuojswmreic
ynstpqikwwarqxkmgjigfiuximtgkfjssvudifqkcambfkalqflcjggroyzrnhq

VIGENERE TABLE

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
A	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
B	B	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
C	C	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A
D	D	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B
E	E	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C
F	F	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D
G	G	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E
H	H	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F
I	I	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G
J	J	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H
K	K	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I
L	L	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J
M	M	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K
N	N	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L
O	O	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M
P	P	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Q	Q	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
R	R	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
S	S	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
T	T	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
U	U	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
V	V	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
W	W	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
X	X	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
Y	Y	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
Z	Z	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X

STEPS OF CONVERSION:

1. Make a table with 3 Rows:
    a. First Row Will Contain given Text, we call it Plain Text
    b. Second Row will contain Key. Here it is YASIR.
    c. Third row will be the Cipher Text
2. First of all break the text of complete sentence into separate alphabets and fill each column of table with this sentence. But only 1 alphabet per cell (as shown below).[Remember not to add special characters such as .,;,-, etc]
3. Now enter the key text (Here it is YASIR) under each alphabet of plain text. Since the Plain Text is very large and key have only 5 alphabets, so repeat the again and again till the alphabets of all the plain text are covered.
4. Now Check the intersection of each alphabet of **Plain Text and Key** in the Vignere Table.
5. Find **T (Plain Text)** in the table Column-wise and its corresponding alphabet of **Key (Y)** Row-wise.
6. Now place the Intersecting alphabet of Plain Text and Key in the Cipher Text Row under each alphabet.
7. The resultant text is Cipher Text of the given sentence.

Plain Text	T	h	e	P	r	o	j	e	c	t	S
Key	Y	A	S	I	R	Y	A	S	I	R	Y
Cipher Text	R	H	W	X	I	M	J	W	K	K	Q