

Experiment 1: Implementation of cryptanalysis on caesar cipher.

Aim: To implement cryptanalysis on ceaser cipher using frequency analysis

Here is a sample Encrypted Message:

GFS WMY OG LGDVS MF SFNKYHOSU ESLLMRS, PC WS BFGW POL DMFRQMRS,
PL OG CPFU MUPCCSKSFO HDMPFOSXO GC OIS LMES DMFRQMRS DGFR SFGQRI
OG CPDD GFS LISSO GK LG, MFU OISF WS NGQFO OIS GNNQKKSFNLS GC SMNI
DSOOSK. WS NMDD OIS EGLO CKSJQSFOY GNNQKKPFR DSOOSK OIS 'CPKLO',
OIS FSXO EGLO GNNQKKPFR DSOOSK OIS 'LSNGFU' OIS CGDDGWPFR EGLO
GNNQKKPFR DSOOSK OIS 'OIPKU', MFU LG GF, QFOPD WS MNNGQFO CGK MDD
OIS UPCCSKSFO DSOOSKL PF OIS HDMPFOSXO LMEHDS. OISF WS DGGB MO OIS
NPHISK OSXO WS WMFO OG LGDVS MFU WS MDLG NDMLLPY POL LYEAGDL.
WS CPFU OIS EGLO GNNQKKPFR LYEAGD MFU NIMFRS PO OG OIS CGKE GC OIS
'CPKLO' DSOOSK GC OIS HDMPFOSXO LMEHDS, OIS FSXO EGLO NGEEGF
LYEAGD PL NIMFRSU OG OIS CGKE GC OIS 'LSNGFU' DSOOSK, MFU OIS
CGDDGWPFR EGLO NGEEGF LYEAGD PL NIMFRSU OG OIS CGKE GC OIS 'OIPKU'
DSOOSK, MFU LG GF, QFOPD WS MNNGQFO CGK MDD LYEAGDL GC OIS
NKYHOGRKME WS WMFO OG LGDVS.

Step:1

Open the encrypted message only in Notepad.

Step2:

Find the frequency of each letter in the encrypted message. to find the frequency of all the letters appearing in the intercept. For this intercept we get the values given in the table below.

Ciphertext Letter	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
Frequency	5	2	26	42	23	51	67	8	33	1	35	39	35	29	85	30	14	17	88	0	17	3	16	6	10	0

Ciphertext Letter	S	O	G	F	D	L	K	M	I	P	N	C	E	R	U	W	Q	Y	H	X	A	V	B	J	T	Z
Frequency	88	85	67	51	42	39	35	35	33	30	29	26	23	17	17	16	14	10	8	6	5	3	2	1	0	0

Step3:

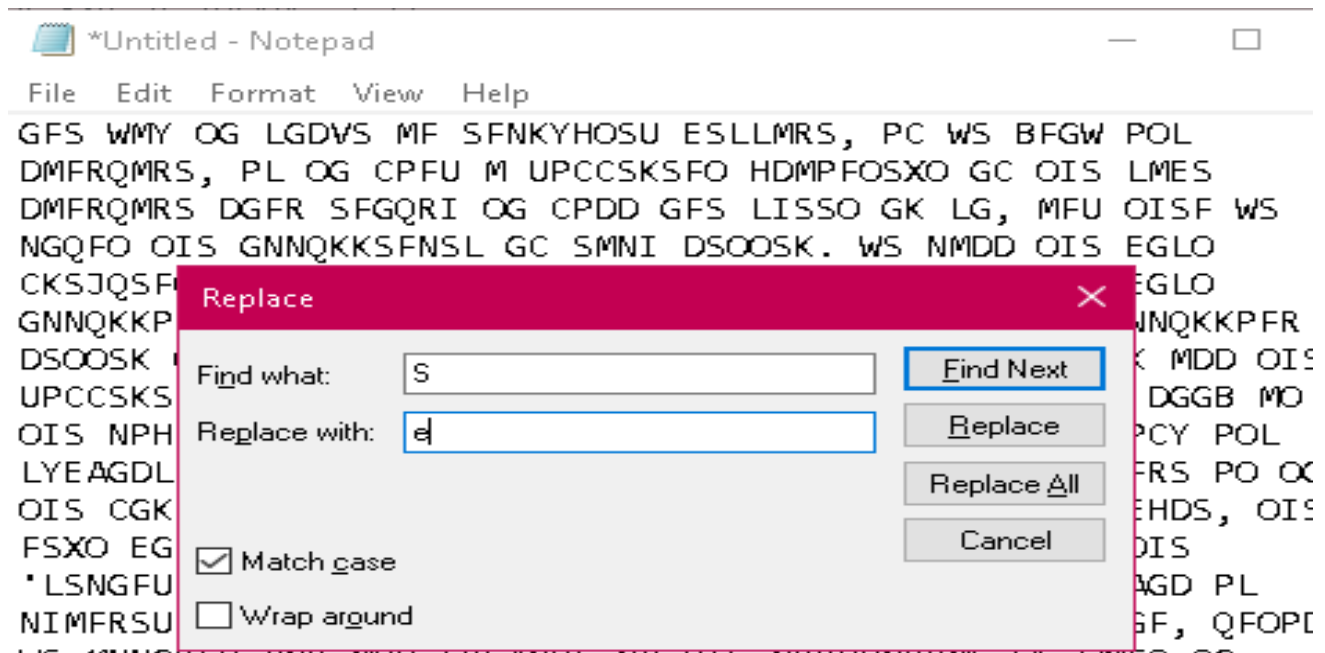
Follow the table below to find the characters to be substituted for the given encrypted message.

Table 1 Frequency of characters in English

Letter	Frequency	Letter	Frequency	Letter	Frequency	Letter	Frequency
E	12.7	H	6.1	W	2.3	K	0.08
T	9.1	R	6.0	F	2.2	J	0.02
A	8.2	D	4.3	G	2.0	Q	0.01
O	7.5	L	4.0	Y	2.0	X	0.01
I	7.0	C	2.8	P	1.9	Z	0.01
N	6.7	U	2.8	B	1.5		
S	6.3	M	2.4	V	1.0		

Step4:

Click ctrl+F in the notepad



Click the check box: Match case

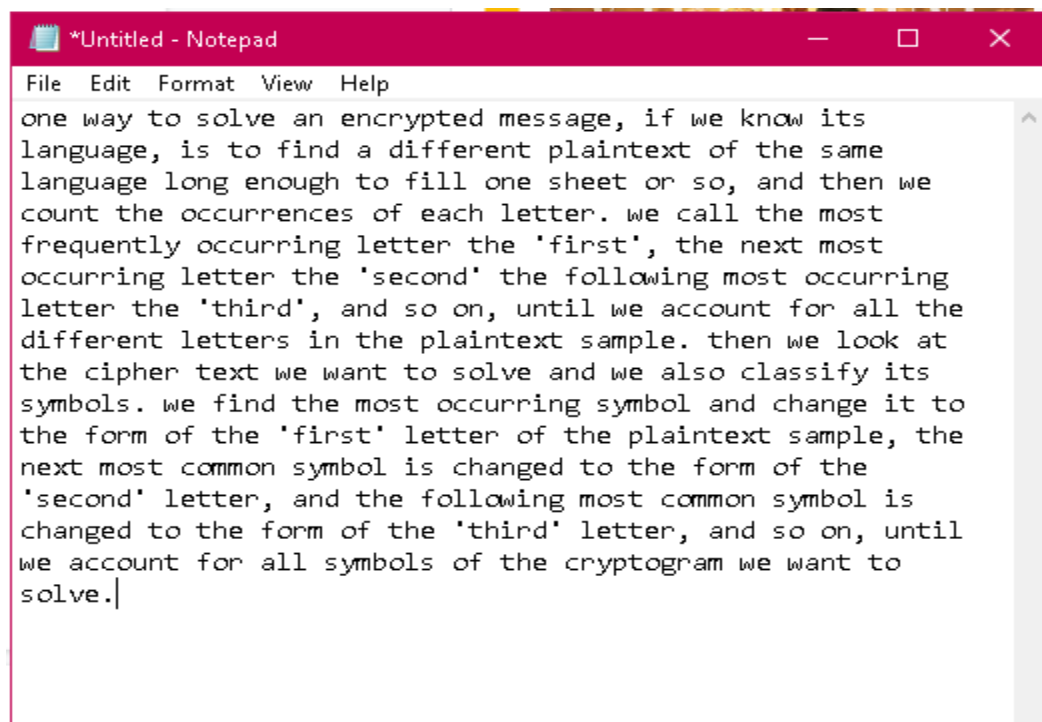
Step 5:

Start substituting one by one letters by following the sequence

Example: I → h G → o F → n M → a X → x
S → e O → t

Step 6:

Final decrypted text will be as shown below.



Result:

Thus the implementation of cryptanalysis on ceaser cipher using frequency analysis was completed successfully