

# PROJECT EXHIBITION

ADVANCED ENCRYPTION ALGORITHM FOR SECURE DATA TRANSFER

# Crypto-Secure

A Platform to secure all your Secrets.

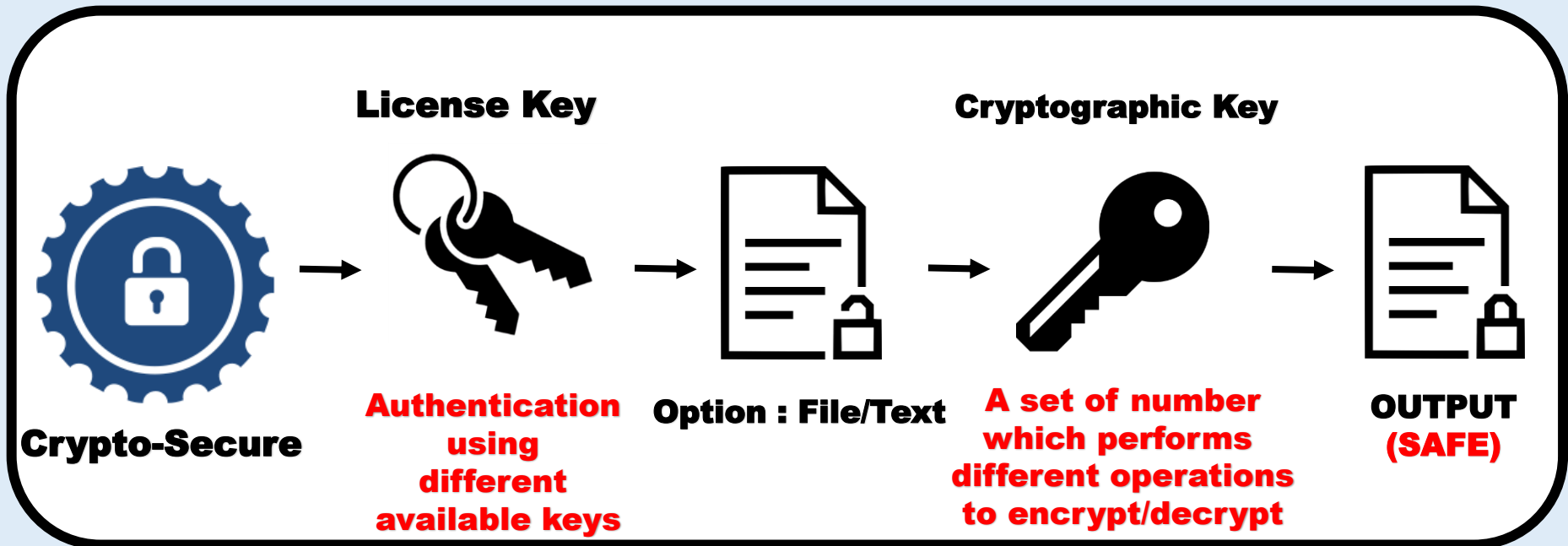
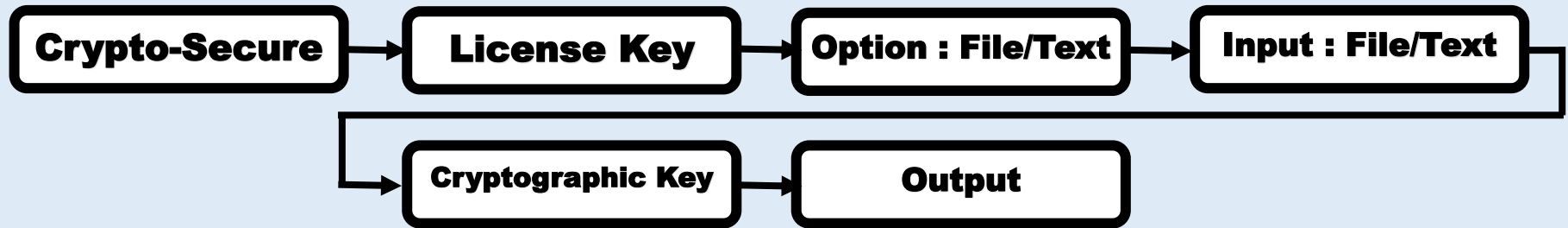


- **It allows us to share sensitive information with others.**
- **Only the authorized recipient should be able to extract the content of the cypher.**
- **It allows you to securely protect data that you don't want anyone else to have access to.**
- **Encryption to securely protect folder contents, which could contain emails, chat histories, tax information, credit card numbers, or any other sensitive information.**

**ENCRYPTION MAKES IT POSSIBLE TO  
MAKE YOUR DATA SAFE EVEN IF YOUR  
DATA IS STOLEN**

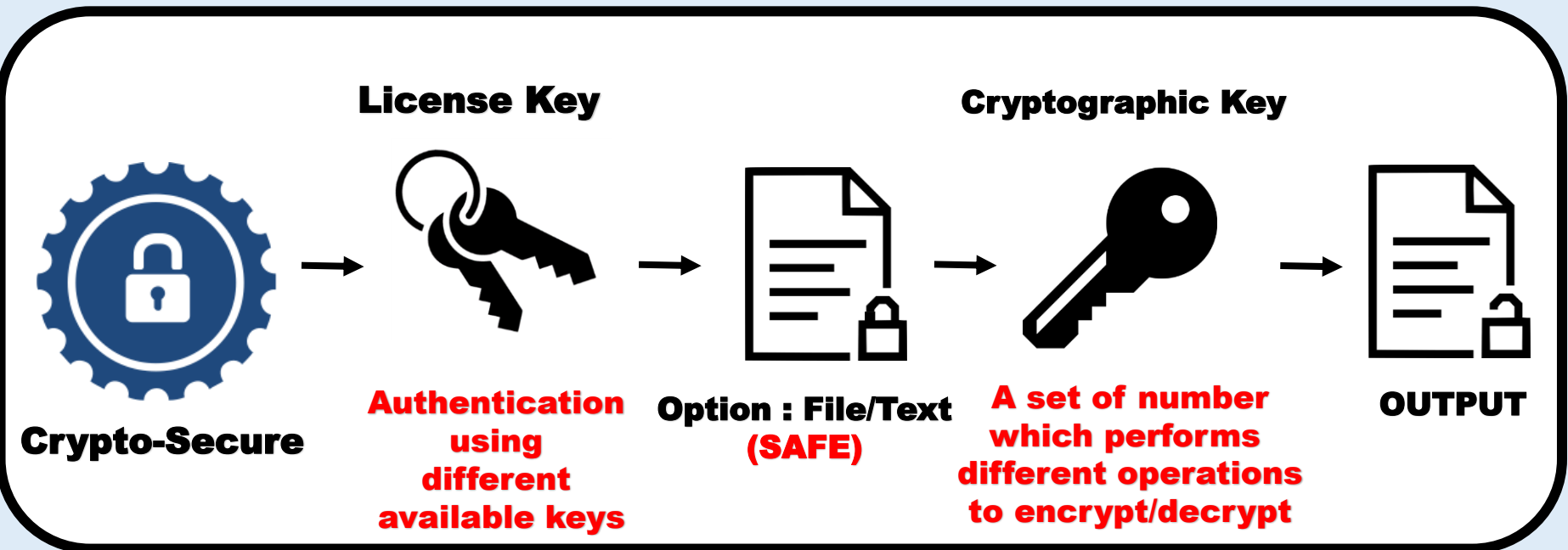
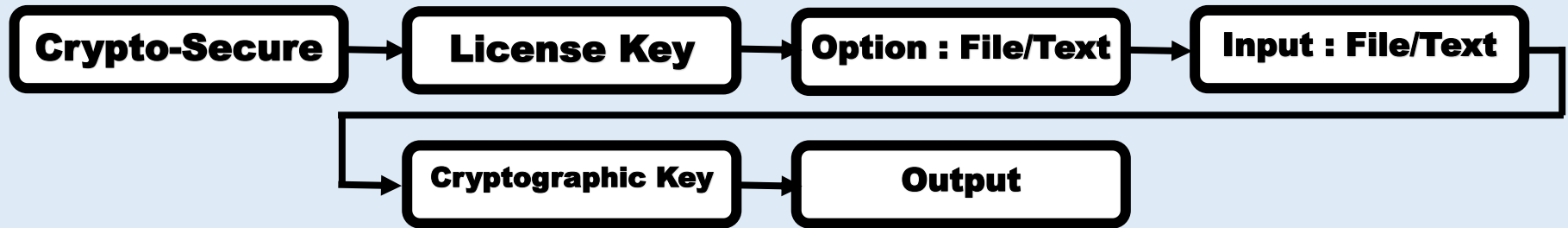
## ARCHITECTURE - ENCRYPTION

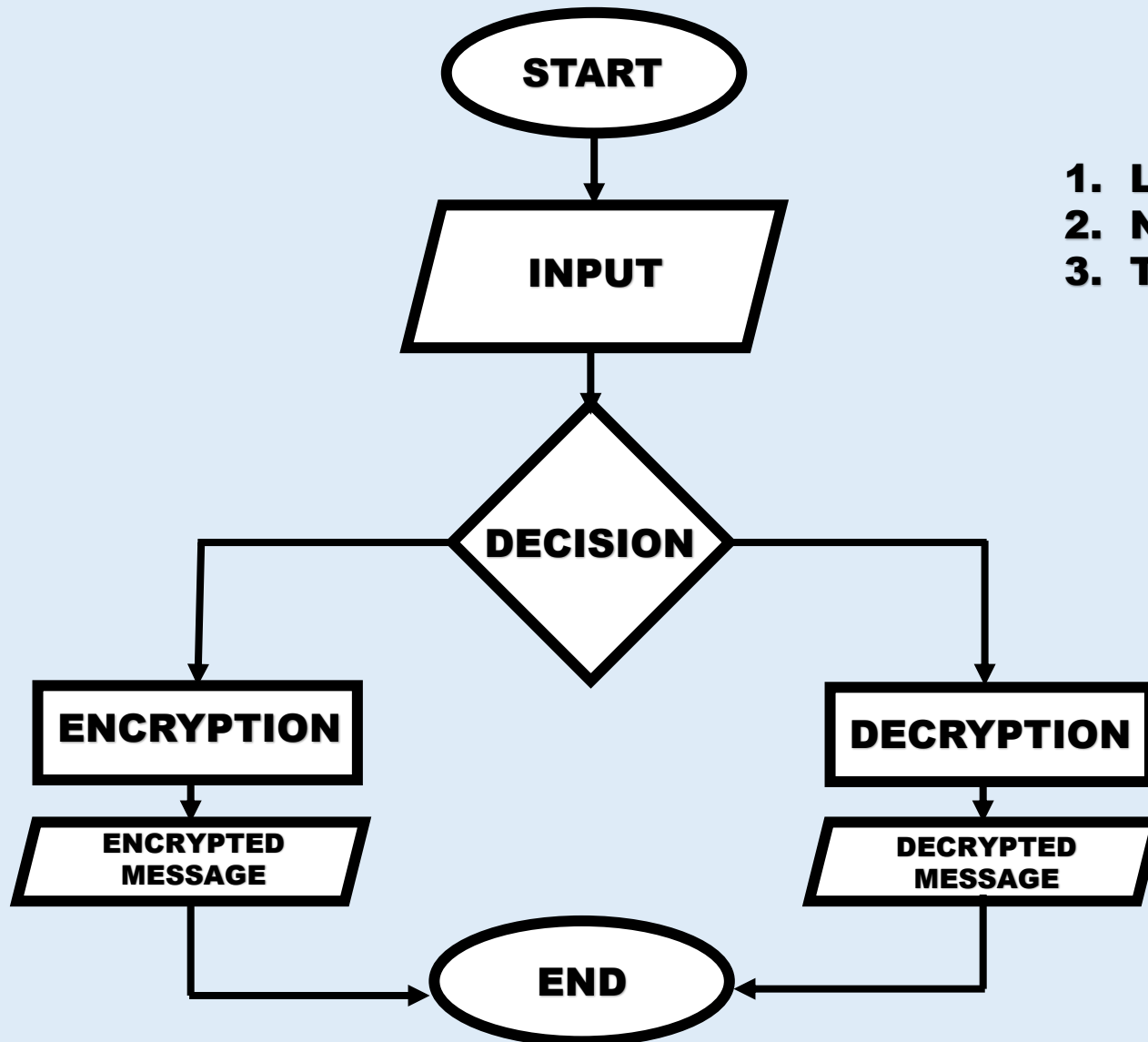
## CRYPTOSECURE



## ARCHITECTURE - DECRYPTION

## CRYPTOSECURE





### INPUT

1. License Key Authentication
2. Name of the USER
3. Text

### DECISION

1. Encryption
2. Decryption

### ENCRYPTION

Algorithms to be followed

1. Base64
2. SHA256
3. Crypto Secure

### DECRYPTION

Algorithms to be followed

1. Base64
2. SHA256
3. Crypto Secure

- **Tkinter : GUI project**

It is a standard Python interface to the Tk GUI toolkit shipped with Python.

- **time**

Python has module named as time to handle all time related tasks.

- **datetime**

Python has module named as datetime to handle all date and time related tasks.

- **base64**

Python has module named as base64, which is basically an encryption module, helps to encrypt or decrypt the plain text.

- **stdio.h**

The C programming language provides many standard library functions for file input and output. These functions make up the bulk of the C standard library header <stdio.h>.

## BASE64

**Base64** is a group of binary-to-text encoding schemes that represent binary data in an ASCII string format by translating it into a radix-64 representation. The term *Base64* originates from a specific MIME content transfer encoding. Each Base64 digit represents exactly 6 bits of data. Three 8-bit bytes (i.e., a total of 24 bits) can therefore be represented by four 6-bit Base64 digits.

**WelcomeToCryptoSecure** → **V2VsY29tZVRvQ3J5cHRvU2VjdXJI**

## BASE64

Value	Char	Value	Char	Value	Char	Value	Char
0	A	16	Q	32	g	48	w
1	B	17	R	33	h	49	x
2	C	18	S	34	i	50	y
3	D	19	T	35	j	51	z
4	E	20	U	36	k	52	0
5	F	21	V	37	l	53	1
6	G	22	W	38	m	54	2
7	H	23	X	39	n	55	3
8	I	24	Y	40	o	56	4
9	J	25	Z	41	p	57	5
10	K	26	a	42	q	58	6
11	L	27	b	43	r	59	7
12	M	28	c	44	s	60	8
13	N	29	d	45	t	61	9
14	O	30	e	46	u	62	+
15	P	31	f	47	v	63	/

## ASCII TABLE

Decimal	Hex	Char	Decimal	Hex	Char	Decimal	Hex	Char	Decimal	Hex	Char
0	0	[NULL]	32	20	[SPACE]	64	40	@	96	60	`
1	1	[START OF HEADING]	33	21	!	65	41	A	97	61	a
2	2	[START OF TEXT]	34	22	"	66	42	B	98	62	b
3	3	[END OF TEXT]	35	23	#	67	43	C	99	63	c
4	4	[END OF TRANSMISSION]	36	24	\$	68	44	D	100	64	d
5	5	[ENQUIRY]	37	25	%	69	45	E	101	65	e
6	6	[ACKNOWLEDGE]	38	26	&	70	46	F	102	66	f
7	7	[BELL]	39	27	'	71	47	G	103	67	g
8	8	[BACKSPACE]	40	28	(	72	48	H	104	68	h
9	9	[HORIZONTAL TAB]	41	29	)	73	49	I	105	69	i
10	A	[LINE FEED]	42	2A	*	74	4A	J	106	6A	j
11	B	[VERTICAL TAB]	43	2B	+	75	4B	K	107	6B	k
12	C	[FORM FEED]	44	2C	,	76	4C	L	108	6C	l
13	D	[CARRIAGE RETURN]	45	2D	-	77	4D	M	109	6D	m
14	E	[SHIFT OUT]	46	2E	.	78	4E	N	110	6E	n
15	F	[SHIFT IN]	47	2F	/	79	4F	O	111	6F	o
16	10	[DATA LINK ESCAPE]	48	30	0	80	50	P	112	70	p
17	11	[DEVICE CONTROL 1]	49	31	1	81	51	Q	113	71	q
18	12	[DEVICE CONTROL 2]	50	32	2	82	52	R	114	72	r
19	13	[DEVICE CONTROL 3]	51	33	3	83	53	S	115	73	s
20	14	[DEVICE CONTROL 4]	52	34	4	84	54	T	116	74	t
21	15	[NEGATIVE ACKNOWLEDGE]	53	35	5	85	55	U	117	75	u
22	16	[SYNCHRONOUS IDLE]	54	36	6	86	56	V	118	76	v
23	17	[ENG OF TRANS. BLOCK]	55	37	7	87	57	W	119	77	w
24	18	[CANCEL]	56	38	8	88	58	X	120	78	x
25	19	[END OF MEDIUM]	57	39	9	89	59	Y	121	79	y
26	1A	[SUBSTITUTE]	58	3A	:	90	5A	Z	122	7A	z
27	1B	[ESCAPE]	59	3B	;	91	5B	[	123	7B	{
28	1C	[FILE SEPARATOR]	60	3C	<	92	5C	\	124	7C	
29	1D	[GROUP SEPARATOR]	61	3D	=	93	5D	]	125	7D	}
30	1E	[RECORD SEPARATOR]	62	3E	>	94	5E	^	126	7E	~
31	1F	[UNIT SEPARATOR]	63	3F	?	95	5F	_	127	7F	[DEL]



## SHA256

**SHA-2 (Secure Hash Algorithm 2)** is a set of cryptographic hash functions designed by the United States National Security Agency (NSA). They are built using the Merkle–Damgård structure, from a one-way compression function itself built using the Davies–Meyer structure from a (classified) specialized block cipher.

Hello VIT   $\xrightarrow{\text{SHA256}}$  -ÉÐÐÓ,,º,

## CRYPTO SECURE ADVANCED ENCRYPTION ALGORITHM

**CSAEA uses the basic concept of ASCII number of a character, It takes the string from the user and finds ASCII number for each and every entered character after this, It performs various kinds of mathematical operations to encrypt or decrypt the string with the help of CRYPTOGRAPHIC KEY taken by user**

**WelcomeToCryptoSecure → cqxo{yq`{O~à|Ç{ \_qoü~q**

# **ENCRYPTION FOR TEXT**

[illegible]

Developed By : Yatin Kalra

Enter the License Key :-

Enter the License Key :- 8454

\*\*\*\*\*

ACCESS GRANTED

\*\*\*\*\*

```
Welcome to CryptoSecure - A Secure Platform to make your secrets secure
(Your secrets are secure between you and only you)
```

For any assist : [cryptosecureuser@gmail.com](mailto:cryptosecureuser@gmail.com)

\*\*\*\*\*

What do you want to Encrypt or Decrypt

[1] Text

[2] File

Selected Option : ☐

# WELCOME PAGE / LICENSE KEY AUTHENTICATION

**PAGE ASKING WITH WHICH  
TYPE OF ENCRYPTION USER  
WANTS TO PROCEED WITH**

```
For any assist : cryptosecureuser@gmail.com
*****
What do you want to Encrypt or Decrypt
[1] Text
[2] File
Selected Option :1
Enter the Secret :
```

**Selected Format : TEXT**

```
What do you want to Encrypt or Decrypt
[1] Text
[2] File
Selected Option :1
Enter the Secret : WelcomeToCryptoSecure

Please choose following options:
1 = Encrypt the string.
2 = Decrypt the string.
```

**Text Entered : WelcomeToCryptoSecure**

```
Please choose following options:  
1 = Encrypt the string.  
2 = Decrypt the string.  
1  
Enter the Cryptographic Key [1-50] : 12  
  
Encrypted string: cqxo{yq`{0~à|Ç{_qoü~q
```

**Option Selected : ENCRYPT  
With Cryptographic Key 12**

**ENCRPYTED STRING : cqxo{yq`{0~à|Ç{\_qoü~q**

```
Enter the Secret : cqxo{yq`{0~à|Ç{_qoü~q  
  
Please choose following options:  
1 = Encrypt the string.  
2 = Decrypt the string.  
2  
Enter the Cryptographic Key [1-50] : 12  
  
Decrypted string: WelcomeToCryptoSecure
```

**Option Selected : DECRYPT**

# **ENCRYPTION FOR FILE**

```
(Your secrets are secure between you and only you)
```

```
For any assist : cryptosecureuser@gmail.com
```

```
*****
```

```
What do you want to Encrypt or Decrypt
```

```
[1] Text
```

```
[2] File
```

```
Selected Option :2
```

```
What do you want to do
```

```
[1] Encrypt the File
```

```
[2] Decrypt the File
```

**Selected Format : FILE**

```
What do you want to do
```

```
[1] Encrypt the File
```

```
[2] Decrypt the File
```

```
1
```


```
Encrypt a text file :
```

```
-----  
Input the name of file to encrypt : HelloVIT.txt
```

```
File HelloVIT.txt successfully encrypted ..!!
```


**Option Selected : ENCRYPT**  
**File Name : HelloVIT.txt**



 HelloVIT - Notepad

File Edit Format View Help

Encrypted by CryptoSecure

**Normal File** temp - Notepad

File Edit Format View Help

|@ÒÇÖÝÔøÉÈ,,ÆÝ,,\$ÖÝÔøÓ•ÉÇÙÖÉ

**Encrypted File**

```
(Your secrets are secure between you and only you)
```

```
For any assist : cryptosecureuser@gmail.com
```

```
*****
```

```
What do you want to Encrypt or Decrypt
```

```
[1] Text
```

```
[2] File
```

```
Selected Option :2
```

```
What do you want to do
```

```
[1] Encrypt the File
```

```
[2] Decrypt the File
```

**Selected Format : FILE**

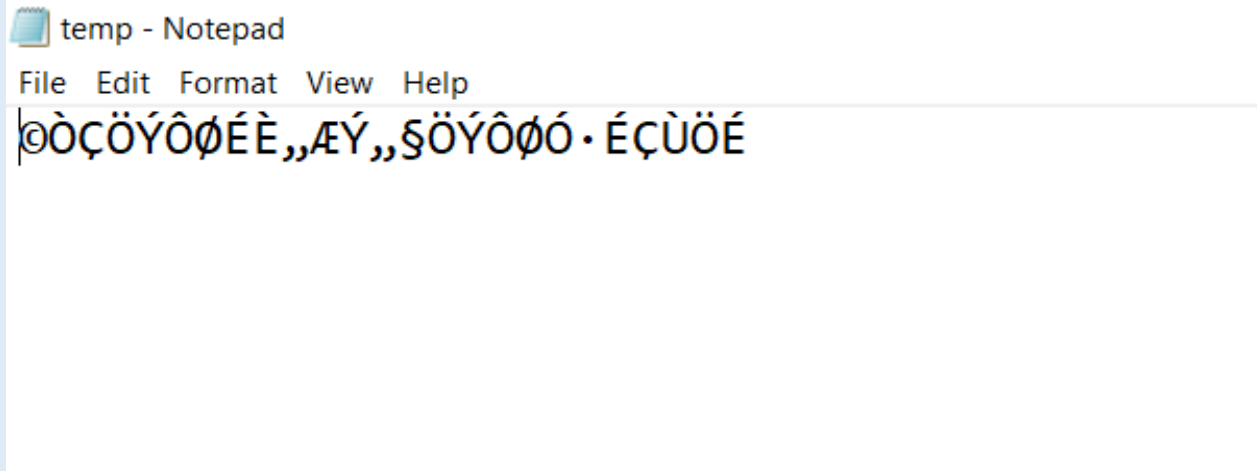
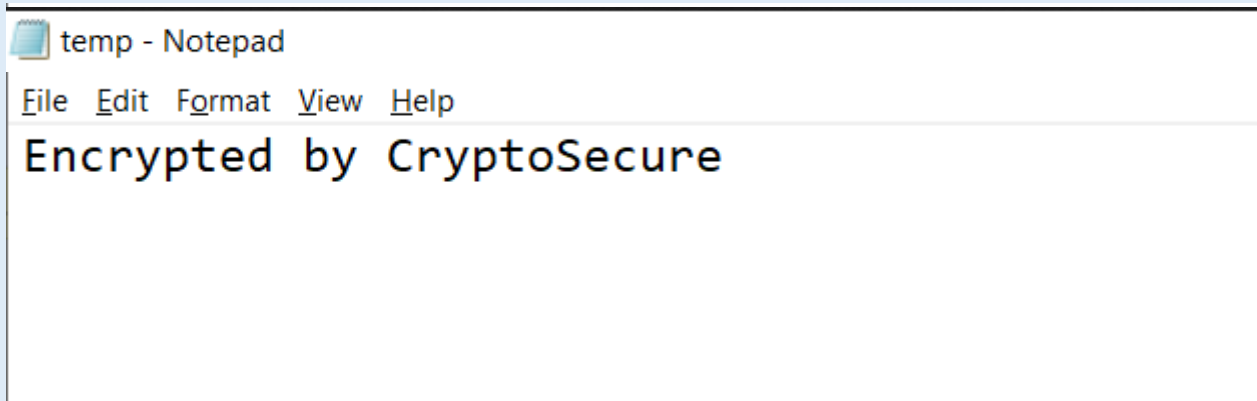
```
Decrypt a text file :
```

```
-----
```

```
Input the name of file to decrypt : temp.txt
```

```
The file temp.txt decrypted successfully..!!
```

**Option Selected : DECRYPT**  
**File Name : temp.txt**

**Normal File****Decrypted File**

# **Demonstration**

- [www.google.co.in](http://www.google.co.in)
- [www.github.com](http://www.github.com)
- [www.yahoo.com](http://www.yahoo.com)
- [www.cloudflare.com](http://www.cloudflare.com)
- [www.techopedia.com](http://www.techopedia.com)
- <https://likegeeks.com/python-gui-examples-tkinter-tutorial/>

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