

## PROGRAM OUTPUT

MS SHRUTHI  
IOT-A  
22011102051

### 1. CAESAR CIPHER

```
Enter a message to encrypt: shruthi
Enter the key: 8
Encrypted message: apzcbpq
```

### 2. ATBASH

```
| ^~~~
In file included from main.c:1:
/usr/include/stdio.h:667:14: note: declared here
    667 | extern char *gets (char *__s) __wur __attribute_deprecated__;
        |             ^~~~
/usr/bin/ld: /tmp/ccclAkNF.o: in function `main':
main.c:(.text+0x38): warning: the `gets' function is dangerous and should not be used.
Enter a sentence
hi this is shruthi from iot
Atbash Cipher code
sr gsrh rh hsifgsr uiln rlg
```

### 3. AUGUST:

Its Caesar cipher with the shift of 1.

```
Enter the plaintext: shruthi
Ciphertext: tisvuij
```

### 4. AFFINE

```
Enter the plaintext: shruthi
Enter the value of 'a' (must be coprime with 26, e.g., 1, 3, 5, 7, 9, 11, 15, 17, 19, 21, 23, 25): 3,5
Enter the value of 'b' (shift value): 7
Ciphertext: jcgpmcf
Decrypted plaintext: shruthi
```

### 5. VEGNERENE

```
1. Encrypt
2. Decrypt
3. Exit

Enter your option: 1

Enter the plaintext (up to 128 characters): shruthi
Enter the Key (up to 16 characters): hello
Cipher Text: ZLCFHM

1. Encrypt
2. Decrypt
3. Exit

Enter your option: 2

Enter the ciphertext: zlcfhm
Enter the key: hello
Deciphered Text: SHRUTHI

1. Encrypt
2. Decrypt
3. Exit

Enter your option: 3
```

### 6. GRONSFELD

```
Enter the plaintext: shruthi
Enter the numeric key (e.g., 123): 10
Ciphertext: thsuuhj
Decrypted plaintext: shruthi
```

## 7. BEAUFORT

```
Enter the plaintext: snu
Enter the key (alphabetic): shruthi
Ciphertext: aux
Decrypted plaintext: snu
```

## 8. AUTOCLAVE /RUNNING KEY

```
Enter the plaintext: shruthims
Enter the key (alphabetic): snu
Ciphertext: kulmaycfz
Decrypted plaintext: shruthims
```

## 9. AUTOCLAVE/RUNNING KEY

```
Enter the plaintext: shruthims
Enter the initial key (alphabetic): snu
Ciphertext: kulmaycfz
Decrypted plaintext: shruthims
```

## 10. NGRAM OPERATIONS

```
Enter the text: hi shruthi here
Enter the ngram size (n): 5

Generated Ngrams:
hi sh
i shr
 shru
shrut
aruth
ruthi
uthi
thi h
hi he
i her
 here

Ngram Frequencies:
here: 1
shru: 1
hi he: 1
hi sh: 1
aruth: 1
i her: 1
i shr: 1
ruthi: 1
shrut: 1
thi h: 1
uthi : 1
```

## 11. HILL CIPHER

```
Enter the plaintext (uppercase letters only, length multiple of 3): SHRUTHIII
Ciphertext: HWGLKWOAA
```

## 12. RAIL FENCE

```
Enter the plaintext: shruthi
Enter the number of rails: 4
Ciphertext: sihhrtu
Decrypted plaintext: shruthi
```

## 13. ROUTE

```
Enter the plaintext: HELLOWORLD
Enter the number of rows: 2
Enter the number of columns: 5
Ciphertext: HWEOLRLLOD
Decrypted plaintext: HELLOWORLD
```

## 14. MYSZKOWSKI

```
Decrypted ciphertext: shruthims
Ciphertext: kulmaycfz
Enter the key: snu
Enter the ciphertext: kulmaycfz
```