

Outputs for the code submitted

1. Immediate output when the code is run:

```
Choose Cipher Algorithm:
1. Caesar Cipher
2. Atbash Cipher
3. Augustus Cipher
4. Affine Cipher
5. Vigenère Cipher
6. Gronsfeld Cipher
7. Beaufort Cipher
8. Autokey Cipher
9. Hill Cipher
10. Rail Fence Cipher
11. Ngram Cipher
12. Route Cipher
13. Myszkowski Cipher
Enter the number of the cipher you want to use: |
```

2. Caesar Cipher:

```
Choose Cipher Algorithm:
1. Caesar Cipher
2. Atbash Cipher
3. Augustus Cipher
4. Affine Cipher
5. Vigenère Cipher
6. Gronsfeld Cipher
7. Beaufort Cipher
8. Autokey Cipher
9. Hill Cipher
10. Rail Fence Cipher
11. Ngram Cipher
12. Route Cipher
13. Myszkowski Cipher
Enter the number of the cipher you want to use: 1
Enter the message: welcome to cryptograpghy
Enter the rotation value for Caesar Cipher: 5
Encrypted: bjghtrj yt hwdytlwfulmd
Decrypted: lelcome to cr_ptograpgh_
```

3. Atbash Cipher:

```
Choose Cipher Algorithm:
1. Caesar Cipher
2. Atbash Cipher
3. Augustus Cipher
4. Affine Cipher
5. Vigenère Cipher
6. Gronsfeld Cipher
7. Beaufort Cipher
8. Autokey Cipher
9. Hill Cipher
10. Rail Fence Cipher
11. Ngram Cipher
12. Route Cipher
13. Myszkowski Cipher
Enter the number of the cipher you want to use: 2
Enter the message: hello this is sample text
Encrypted: svool gsrh rh hznkov gvcg
Decrypted: hello this is sample text
```

4. Augustus Cipher:

```
Choose Cipher Algorithm:
1. Caesar Cipher
2. Atbash Cipher
3. Augustus Cipher
4. Affine Cipher
5. Vigenère Cipher
6. Gronsfield Cipher
7. Beaufort Cipher
8. Autokey Cipher
9. Hill Cipher
10. Rail Fence Cipher
11. Ngram Cipher
12. Route Cipher
13. Myszowski Cipher
Enter the number of the cipher you want to use: 4
Enter the message: we all are discovered
Enter the multiplier for Affine Cipher: 3
Enter the additive constant for Affine Cipher: 2
Encrypted: go cjj cbo laeisbnobol
Decrypted: we all are discovered
```

5. Affine Cipher:

```
Choose Cipher Algorithm:
1. Caesar Cipher
2. Atbash Cipher
3. Augustus Cipher
4. Affine Cipher
5. Vigenère Cipher
6. Gronsfield Cipher
7. Beaufort Cipher
8. Autokey Cipher
9. Hill Cipher
10. Rail Fence Cipher
11. Ngram Cipher
12. Route Cipher
13. Myszowski Cipher
Enter the number of the cipher you want to use: 5
Enter the message: good morning
Enter the key for Vigenère Cipher: 2
Encrypted: RZZO XZ]YTYR
Decrypted: MUUJ SU]TOTM
```

6. Vignere Cipher:

```
Choose Cipher Algorithm:
1. Caesar Cipher
2. Atbash Cipher
3. Augustus Cipher
4. Affine Cipher
5. Vigenère Cipher
6. Gronsfield Cipher
7. Beaufort Cipher
8. Autokey Cipher
9. Hill Cipher
10. Rail Fence Cipher
11. Ngram Cipher
12. Route Cipher
13. Myszowski Cipher
Enter the number of the cipher you want to use: 6
Enter the message: Shiv nadar university
Enter the key for Gronsfield Cipher (digits only): 9
Encrypted: Bqre wjmja dwrenabrch
Decrypted: Shiv nadar university
```

7. Gronsfeld Cipher:

```
Choose Cipher Algorithm:
1. Caesar Cipher
2. Atbash Cipher
3. Augustus Cipher
4. Affine Cipher
5. Vigenère Cipher
6. Gronsfeld Cipher
7. Beaufort Cipher
8. Autokey Cipher
9. Hill Cipher
10. Rail Fence Cipher
11. Ngram Cipher
12. Route Cipher
13. Myszkowski Cipher
Enter the number of the cipher you want to use: 7
Enter the message: computer
Enter the key for Beaufort Cipher: abc
Encrypted: ynqlhjwk
Decrypted: computer
```

8. Beaufort Cipher:

```
Choose Cipher Algorithm:
1. Caesar Cipher
2. Atbash Cipher
3. Augustus Cipher
4. Affine Cipher
5. Vigenère Cipher
6. Gronsfeld Cipher
7. Beaufort Cipher
8. Autokey Cipher
9. Hill Cipher
10. Rail Fence Cipher
11. Ngram Cipher
12. Route Cipher
13. Myszkowski Cipher
Enter the number of the cipher you want to use: 8
Enter the message: welcome to my world
Enter the key for Autokey Cipher: hello
Encrypted: diwncii vc qR kHdjW
Decrypted: welcome to mE wUrfJ
```

9. Autokey Cipher:

```
Choose Cipher Algorithm:
1. Caesar Cipher
2. Atbash Cipher
3. Augustus Cipher
4. Affine Cipher
5. Vigenère Cipher
6. Gronsfeld Cipher
7. Beaufort Cipher
8. Autokey Cipher
9. Hill Cipher
10. Rail Fence Cipher
11. Ngram Cipher
12. Route Cipher
13. Myszkowski Cipher
Enter the number of the cipher you want to use: 9
Enter the message: welcome
Enter the 4 keys for Hill Cipher as a list (e.g. 5 8 17 3): (1 2 3 4)
Encrypted: ekpsmeaq
Decrypted: mog[kWow
```

10. Hill Cipher:

```
Choose Cipher Algorithm:
1. Caesar Cipher
2. Atbash Cipher
3. Augustus Cipher
4. Affine Cipher
5. Vigenère Cipher
6. Gronsfield Cipher
7. Beaufort Cipher
8. Autokey Cipher
9. Hill Cipher
10. Rail Fence Cipher
11. Ngram Cipher
12. Route Cipher
13. Myszkowski Cipher
Enter the number of the cipher you want to use: 10
Enter the message: cryptograpghy concepts
Enter the number of rails for Rail Fence Cipher: 4
Encrypted: cgyerorh cpytagcntppos
Decrypted: cryptograpghy concepts
```

11. Rail Fence Cipher:

```
Choose Cipher Algorithm:
1. Caesar Cipher
2. Atbash Cipher
3. Augustus Cipher
4. Affine Cipher
5. Vigenère Cipher
6. Gronsfield Cipher
7. Beaufort Cipher
8. Autokey Cipher
9. Hill Cipher
10. Rail Fence Cipher
11. Ngram Cipher
12. Route Cipher
13. Myszkowski Cipher
Enter the number of the cipher you want to use: 11
Enter the message: welcome world
Enter the value of n for Ngram Cipher: 3
Encrypted: BJQ HTR JBT WQI
Decrypted: WELCOMEWORLD
```

12. Ngram Cipher:

```
Choose Cipher Algorithm:
1. Caesar Cipher
2. Atbash Cipher
3. Augustus Cipher
4. Affine Cipher
5. Vigenère Cipher
6. Gronsfield Cipher
7. Beaufort Cipher
8. Autokey Cipher
9. Hill Cipher
10. Rail Fence Cipher
11. Ngram Cipher
12. Route Cipher
13. Myszkowski Cipher
Enter the number of the cipher you want to use: 12
Enter the message: welcome
Enter the size of the matrix for Route Cipher: 3 2
Encrypted: wceeoxlmx
Decrypted: welcomexx
```

13. Route Cipher:

```
Choose Cipher Algorithm:
1. Caesar Cipher
2. Atbash Cipher
3. Augustus Cipher
4. Affine Cipher
5. Vigenère Cipher
6. Gronsfeld Cipher
7. Beaufort Cipher
8. Autokey Cipher
9. Hill Cipher
10. Rail Fence Cipher
11. Ngram Cipher
12. Route Cipher
13. Myszkowski Cipher
Enter the number of the cipher you want to use: 11
Enter the message: welcome world
Enter the value of n for Ngram Cipher: 3
Encrypted: BJQ HTR JBT WQI
Decrypted: WELCOMEWORLD
```

14. Myszkowski Cipher:

```
Choose Cipher Algorithm:
1. Caesar Cipher
2. Atbash Cipher
3. Augustus Cipher
4. Affine Cipher
5. Vigenère Cipher
6. Gronsfeld Cipher
7. Beaufort Cipher
8. Autokey Cipher
9. Hill Cipher
10. Rail Fence Cipher
11. Ngram Cipher
12. Route Cipher
13. Myszkowski Cipher
Enter the number of the cipher you want to use: 13
Enter the message: Shasmitha
Enter the key for Myszkowski Cipher: happy
Encrypted: htSiahsamx
Decrypted: Shasmithax
```