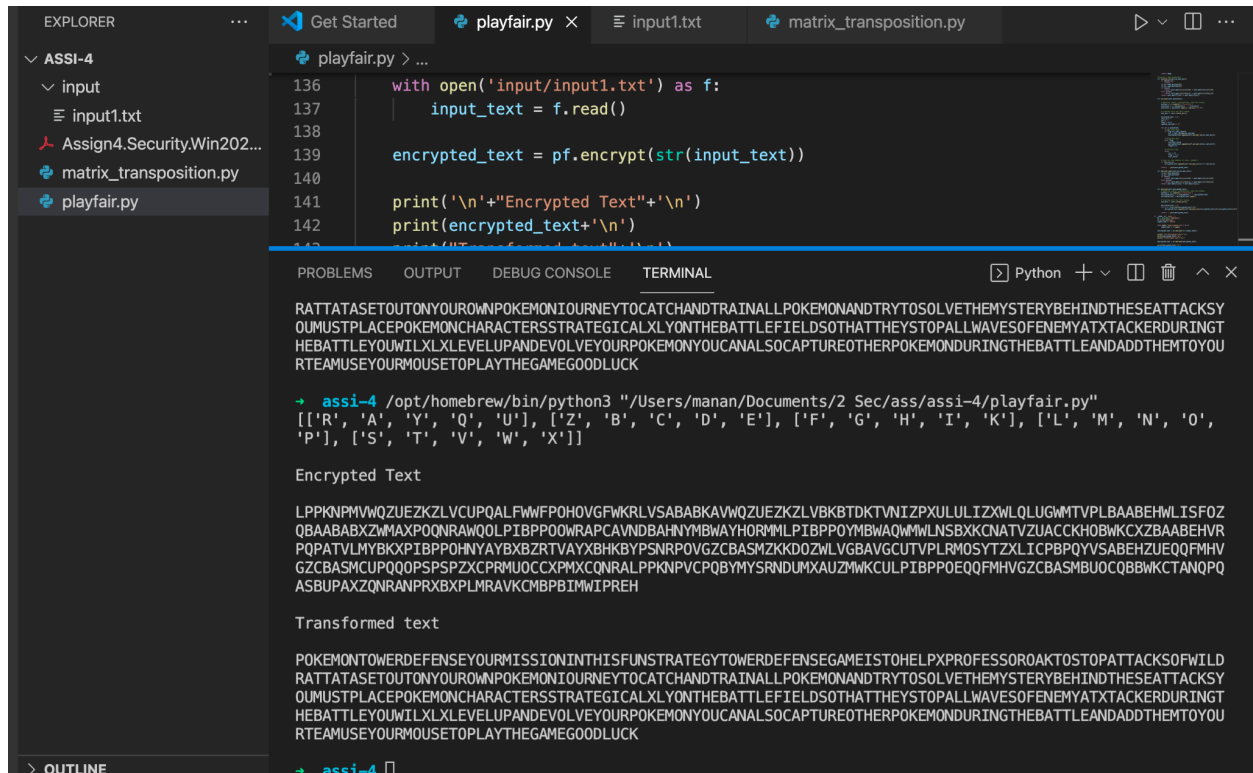


CSCI 6708 Assignment-4

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Exercise 1:

PlayFair Encryption



Input Text:

POKEMON TOWER DEFENSE
YOUR MISSION IN THIS FUN STRATEGY TOWER DEFENSE GAME IS TO HELP
PROFESSOR OAK TO STOP ATTACKS
OF WILD RATTATA. SET OUT ON YOUR OWN POKEMON JOURNEY, TO CATCH AND
TRAIN ALL POKEMON AND
TRY TO SOLVE THE MYSTERY BEHIND THESE ATTACKS. YOU MUST PLACE
POKEMON CHARACTERS
STRATEGICALLY ON THE BATTLEFIELD SO THAT THEY STOP ALL WAVES OF
ENEMY ATTACKER
DURING THE BATTLE YOU WILL LEVEL UP AND EVOLVE YOUR POKEMON. YOU
CAN ALSO CAPTURE OTHER

POKEMON DURING THE BATTLE AND ADD THEM TO YOUR TEAM. USE YOUR
 MOUSE TO PLAY THE GAME.
 GOOD LUCK

Playfair square

[['R', 'A', 'Y', 'Q', 'U'], ['Z', 'B', 'C', 'D', 'E'], ['F', 'G', 'H', 'I', 'K'], ['L', 'M', 'N', 'O', 'P'], ['S', 'T', 'V',
 'W', 'X']]

Encrypted Text

LPPKNPMVWQZUEZKZLVCUPQALFWWFPOHOVGFWKRLVSABABKAVWQZUEZKZL
 VBKBDKTVNIZPXULULIZXWLQLUGWMTVPLBAABEHWLISFOZQBAABABXZWM
 AXPOQNRAWQOLPIBPPOOWRAPCAVNDBAHNYMBWAYHORMMLPIBPPOYMBWAQ
 WMWLNSBXKCNATVZUACCKHOBWKCXZBAABEHVRPQPATVLMYBKXPIBPPOHN
 YAYBXBZRTVAYXBHKBYPSPNRPOVGZCBASMZKKDOZWLVGBAVGCUTVPLRMOSY
 TZXLICBPBPQYVSABEHZUEQQFMHVGZCBASMCUPQQOPSPSPZXCPRMUOCCXPMX
 CQNRALPPKNPVCPQBMYSRNDUMXAUZMWKCULPIBPPOEQQFMHVGZCBASMB
 UOCQBBWKCTANQPQASBUPAXZQNRANPRXBXPMLRAVKCMBBPBIMWIPREH

Decrypted text

POKEMON TOWER DEFENSE YOUR MISSION IN THIS FUN STRATEGY TOWER DEFENSE
 GAME IS TO HELP X PROFESSOR OAK TO STOP ATTACKS OF WILD RATTATA SET OUT ON
 YOUR OWN POKEMON JOURNEY TO CATCH AND TRAIN ALL POKEMON AND TRY TO SOLVE
 THE MYSTERY BEHIND THESE ATTACKS YOU MUST PLACE POKEMON CHARACTERS
 STRATEGICALLY ON THE BATTLEFIELD SO THAT THEY STOP ALL WAVES OF ENEMY
 ATTACKER DURING THE BATTLE YOU WILL LEVEL UP AND EVOLVE YOUR POKEMON
 YOU CAN ALSO CAPTURE OTHER POKEMON DURING THE BATTLE AND ADD THEM TO
 YOUR TEAM USE YOUR MOUSE TO PLAY THE GAME GOOD LUCK

Exercise 2:

The screenshot shows a VS Code editor with a file explorer on the left containing a project named 'ASSI-4' with files 'input1.txt', 'input2.txt', 'matrix_transposition.py', and 'playfair.py'. The main editor displays the 'matrix_transposition.py' file with the following code:

```

67
68     print('\n'+ "Input Text" + '\n')
69     print(input_text + '\n')
70
71     key= [5,4,1,3,2]
72
73     encrypted_text = mt.encrypt(str(input_text),key)
74
75     print('\n'+ "Encrypted Text" + '\n')
76     print(encrypted_text + '\n')
77     print("Transformed text" + '\n')
78
79     decrypted_text = mt.decrypt(encrypted_text,key)
80

```

The terminal at the bottom shows the execution of the script:

```

→ assi-4 /opt/homebrew/bin/python3 "/Users/manan/Documents/2 Sec/ass/assi-4/matrix_transposition.py

Input Text

meet at military house

[[['m', 'e', 'e', 't', '%'], ['a', 't', '%', 'm', 'i'], ['l', 'i', 't', 'a', 'r'], ['y', '%', 'h', 'o', 'u'], ['s', 'e', None, None, None]]

Encrypted Text

%irutmaomalyse%theti%e

Transformed text

meet at military house

→ assi-4

```

Input Text

meet at military house

[[['m', 'e', 'e', 't', '%'], ['a', 't', '%', 'm', 'i'], ['l', 'i', 't', 'a', 'r'], ['y', '%', 'h', 'o', 'u'], ['s', 'e', None, None, None]]

Encrypted Text:

%irutmaomalyse%theti%e

Decrypted text:

meet at military house

References:

- [1] “Playfair cipher,” Wikipedia, 22-Nov-2021. [Online]. Available: https://en.wikipedia.org/wiki/Playfair_cipher. [Accessed: 18-Mar-2022].
- [2] “Transposition cipher,” Wikipedia, 23-Feb-2022. [Online]. Available: https://en.wikipedia.org/wiki/Transposition_cipher. [Accessed: 18-Mar-2022].