One Time Pad Cipher Project 1

For this project I used Visual Studio Code on windows. However, I ran Visual Studio Code with 'WSL: Ubuntu' which is windows subsystem for Linux. The language used for this project was C++, and CMake (version 3.16.3) was used to build and run this program using commands in Visual Studio Code's terminal. The commands should be Linux since it is running in WSL. IMPORTANT! Enter plaintext in plaintext.txt file either from the project folder ("otp_m13452874/data/plaintext.txt") it's stored in or open the file in VS Code and enter it. Repeat this for the key in key.txt.

IF ANY ISSUES: https://github.com/CasamattaD/otp_m13452874 is the source code on github for the project if you want it is public to pull and run.

TO BUILD/COMPILE: Open project folder in VS Code WSL Ubuntu, and make sure cmake extension is installed as well as C++.

Use the command **cmake –-build build**

```
casamade@DESKTOP-UAE40PD:~/otp_m13452874$ cmake --build build
Scanning dependencies of target applibrary
[ 25%] Building CXX object CMakeFiles/applibrary.dir/OneTimePad.cpp.o
[ 50%] Linking CXX static library libapplibrary.a
[ 50%] Built target applibrary
[ 75%] Linking CXX executable runMain
```

TO RUN/ RESULTS:

ENCRYPTION FUNCTION: CipherText is converted fully to their ascii characters instead of just binary.

Use the command **./build/runMain enc**

```
casamade@DESKTOP-UAE40PD:~/otp_m13452874$ ./build/runMain enc
Ciphertext: 70}
```

DECRYPT FUNCTION: Uses fully converted ciphertext from encrypt function and successfully converts to plaintext

Use the command **./build/runMain dec**

```
casamade@DESKTOP-UAE40PD:~/otp_m13452874$ ./build/runMain dec
Plaintext: bear
```

NEW KEY GENERATION

Use the command **./build/runMain keygen 24** where 24 represents the user number input.

```
casamade@DESKTOP-UAE40PD:~/otp_m13452874$ ./build/runMain keygen 24
Secret Key:
101111001101011000001011
```