# Bruteforce Task

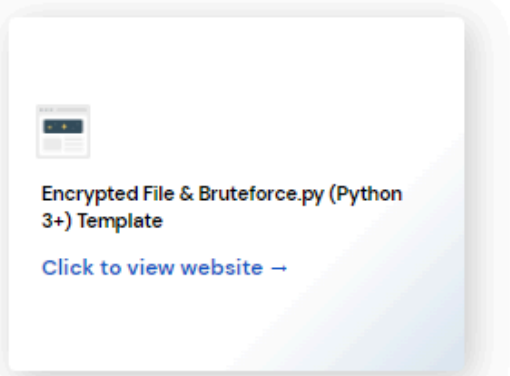
## Here is the background information for your task

In this task, you will write a Python script to bruteforce the decryption key of the encrypted file.

Bruteforcing is the act of repeatedly trying different combinations to break the password encryption (based on either randomly generated passwords, or from a list of passwords to try). In the resource below, we've provided a small subset of passwords from Rockyou – a widely know password wordlist that contains thousands of common passwords in one wordlist.

Ransomware will often encrypt all files on a device, and sometimes give the decryption key after the ransom has been paid (but this is not always the case!). In this task, we would like you to break the encryption without paying the ransom.

A foundational Python 3+ template has also been provided for you in the resource below. One potential implementation is described in the code comments.

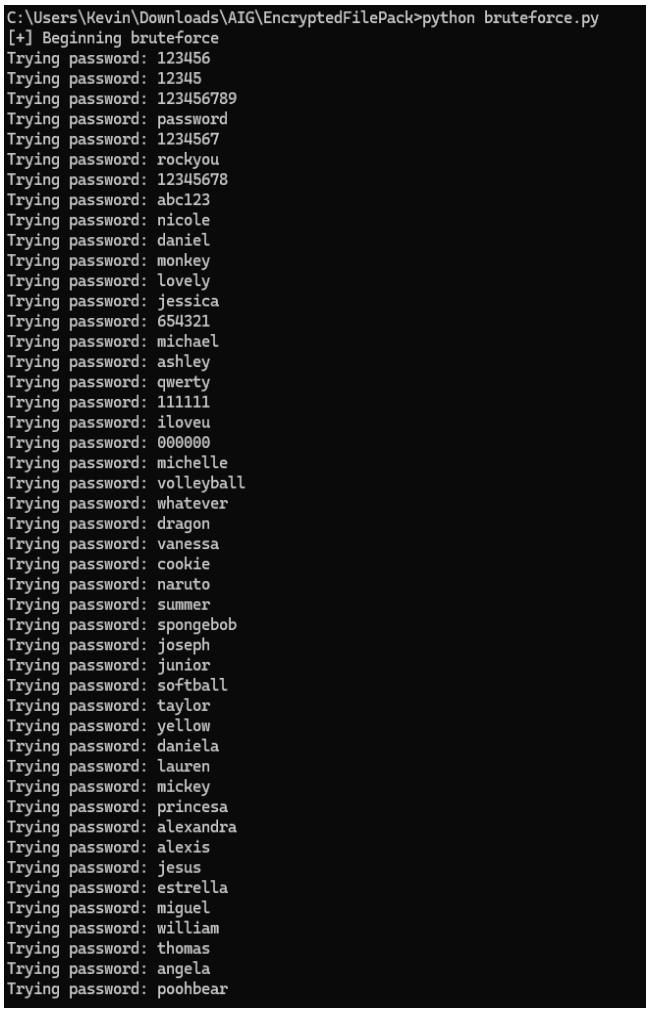



After, open the decrypted word doc and **paste your Python code in the text field below.** We'll show you an example answer on the next step, but we encourage you to give it a go first!

# My Response

```
from zipfile import ZipFile, BadZipFile
import sys

def attempt_extract(zf_handle, password):
  """
  Attempt to extract the ZIP file with a given password.

  :param zf_handle: The ZipFile handle object
  :param password: The password to attempt
  :return: True if extraction was successful, False otherwise
  """
  try:
    # Attempt to extract the file using the provided password
    zf_handle.extractall(pwd=password)
    return True
  except (RuntimeError, RuntimeError, BadZipFile, RuntimeError) as e:
    # If extraction fails, return False
    return False

def main():
  print("[+] Beginning bruteforce ")
  # Open the encrypted ZIP file
  with ZipFile('enc.zip') as zf:
    # Open the Rockyou password list
    with open('rockyou.txt', 'r', encoding='utf-8') as f:
      # Iterate through each password in the list
      for line in f:
        # Strip any whitespace from the password
        password = line.strip().encode('utf-8')

        print(f"Trying password: {password.decode('utf-8')}")

        # Attempt to extract the ZIP file with the current password
        if attempt_extract(zf, password):
          print(f"[+] Password found: {password.decode('utf-8')}")
          break
      else:
        # If the loop completes without finding the correct password
        print("[+] Password not found in list")

if __name__ == "__main__":
  main()
```

# Output


C:\Users\Kevin\Downloads\AIG\EncryptedFilePack>python bruteforce.py
[+] Beginning bruteforce
Trying password: 123456
Trying password: 12345
Trying password: 123456789
Trying password: password
Trying password: 1234567
Trying password: rockyou
Trying password: 12345678
Trying password: abc123
Trying password: nicole
Trying password: daniel
Trying password: monkey
Trying password: lovely
Trying password: jessica
Trying password: 654321
Trying password: michael
Trying password: ashley
Trying password: qwerty
Trying password: 111111
Trying password: iloveu
Trying password: 000000
Trying password: michelle
Trying password: volleyball
Trying password: whatever
Trying password: dragon
Trying password: vanessa
Trying password: cookie
Trying password: naruto
Trying password: summer
Trying password: spongebob
Trying password: joseph
Trying password: junior
Trying password: softball
Trying password: taylor
Trying password: yellow
Trying password: daniela
Trying password: lauren
Trying password: mickey
Trying password: princesa
Trying password: alexandra
Trying password: alexis
Trying password: jesus
Trying password: estrella
Trying password: miguel
Trying password: william
Trying password: thomas
Trying password: angela
Trying password: poohbear


Trying password: patrick
Trying password: monica
Trying password: richard
Trying password: 112233
Trying password: princess1
Trying password: 555555
Trying password: diamond
Trying password: carolina
Trying password: steven
Trying password: rangers
Trying password: louise
Trying password: orange
Trying password: 789456
Trying password: 999999
Trying password: 11111
Trying password: nathan
Trying password: heaven
Trying password: 55555
Trying password: baseball
Trying password: martin
Trying password: greenday
Trying password: november
Trying password: alyssa
Trying password: madison
Trying password: 123321
Trying password: 123abc
Trying password: batman
Trying password: september
Trying password: december
Trying password: morgan
Trying password: mariposa
Trying password: maria
Trying password: gabriela
Trying password: SPONGEBOB
[+] Password found: SPONGEBOB
C:\Users\Kevin\Downloads\AIG\EncryptedFilePack>