Ex.No:7   **SHA-1 ALGORITHM**

Date:

AIM:

   To calculate message digest of files and compare using SHA-1 algorithm.

ALGORTIHM:

   1. Import the required packages.
   2. Create 2 hash values h1,h2.
   3. Get the filenames from the user for which SHA algorithm is to be applied.
   4. Read the files and encode it in utf-8 format and update in corresponding hash value.
   5. Apply hexdigest function on the hash values and and check whether they are same or not and show the output .

PROGRAM:

```
from Crypto.Hash import SHA1


hash_obj1 = SHA1.new()
hash_obj2 = SHA1.new()

with open('file1.txt', 'rb') as file1, open('file2.txt', 'rb') as file2:
    content1 = file1.read()
    content2 = file2.read()

hash_obj1.update(content1)
hash_obj2.update(content2)

hexdigest1 = hash_obj1.hexdigest()
hexdigest2 = hash_obj2.hexdigest()

print(f'Digest of file#1: {hexdigest1}')
print(f'Digest of file#2: {hexdigest2}')

print('Contents match') if hexdigest1 == hexdigest2 else print('Contents mismatch')
```
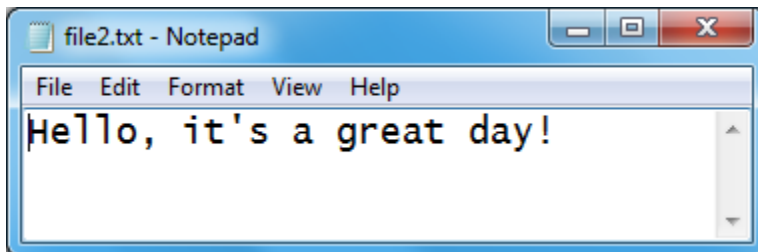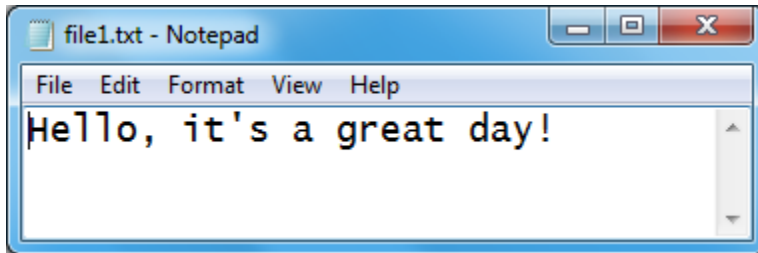
OUTPUT:


```
PS C:\Users\student\Desktop\cns> & "D:/Program Files/Python37/python.exe" c:/Users/student/Desktop/cns/sha1.py
Digest of file#1: 16fa2ceeadabba054d4272c6d631e37f784c3c43
Digest of file#2: 16fa2ceeadabba054d4272c6d631e37f784c3c43
Contents match
PS C:\Users\student\Desktop\cns>
```

RESULT:

Thus the program to calculate message digest using SHA-1 algorithm has been executed and verified.