

Practical.no - 4

Title - Write a program for authentication with hashing algorithm.

```
import hashlib

print ("The available algorithms are : ", end = "")
print (hashlib.algorithms_guaranteed)

import hashlib

str = "Government college of engineering"

result = hashlib.sha256(str.encode())

print("The hexadecimal equivalent of SHA256 is : ")
print(result.hexdigest())

print ("\r")

str = "Government college of engineering"

result = hashlib.sha384(str.encode())

print("The hexadecimal equivalent of SHA384 is : ")
print(result.hexdigest())

print ("\r")

str = "Government college of engineering"

result = hashlib.sha224(str.encode())

print("The hexadecimal equivalent of SHA224 is : ")
print(result.hexdigest())

print ("\r")

str = "Government college of engineering"

result = hashlib.sha512(str.encode())

print("The hexadecimal equivalent of SHA512 is : ")
print(result.hexdigest())

print ("\r")

str = "Government college of engineering"

result = hashlib.shal(str.encode())

print("The hexadecimal equivalent of SHA1 is : ")
print(result.hexdigest())
```

Output:

The available algorithms are : {'sha1', 'sha3_224', 'sha3_256', 'sha3_512', 'sha224', 'sha256', 'blake2s', 'md5', 'sha384', 'shake_256', 'sha3_384', 'shake_128', 'blake2b', 'sha512'}

The hexadecimal equivalent of SHA256 is :
da9d962faa88d2f5d4407585e6efc35f23a825c2df282f2d72f147fdb2da2b06

The hexadecimal equivalent of SHA384 is :
8f5f84e5192ac5c6ec5ca692b6de76938da3c39509b0ae2de214ccb74f85aa9af557e4022
9e57503b49c2497a50b553a

The hexadecimal equivalent of SHA224 is :
72b9e0a839bc11dd52f382432552c7cacd89d1f77c3f279033cc0984

The hexadecimal equivalent of SHA512 is :
c9a88b672e4d06d13ade87d7b9d9ec027a2614e046acfa591eada9ffea0f03b9756ca92b3
65f5cb7aec42e42f9290504e5a606bfb422cd48a830fd10f32460bb

The hexadecimal equivalent of SHA1 is :
96140c62dbdbf1f964c1dcfc4927ceaa75972f33