Types of Encryption

SHA-1, AES , and RSA.

1. **SHA-1 Encryption**

   SHA-1 (Secure Hash Algorithm 1) is a cryptographic hash function which takes an input and produces a 160-bit (20-byte) hash value known as a message digest – typically rendered as a hexadecimal number, 40 digits long.

2. **AES Encryption**

   AES (Advanced Encryption Standard) is a subset of the Rijndael block cipher, a family of ciphers with different key and block sizes. The algorithm described by AES is a symmetric-key algorithm, meaning the same key is used for both encrypting and decrypting the data.

3. **RSA Encryption**

   RSA (Rivest–Shamir–Adleman) is one of the first public-key cryptosystems and is widely used for secure data transmission. In such a cryptosystem, the encryption key is public and it is different from the decryption key which is kept secret (private).

Types of Comparison

Encryption Speed and Encryption Strength.

1. **Encryption Speed**
   - I will perform 50 tests for each encryption algorithm to determine speed efficiency. Each test takes in three files of differing sizes and encrypts the files while recording the start and end time.

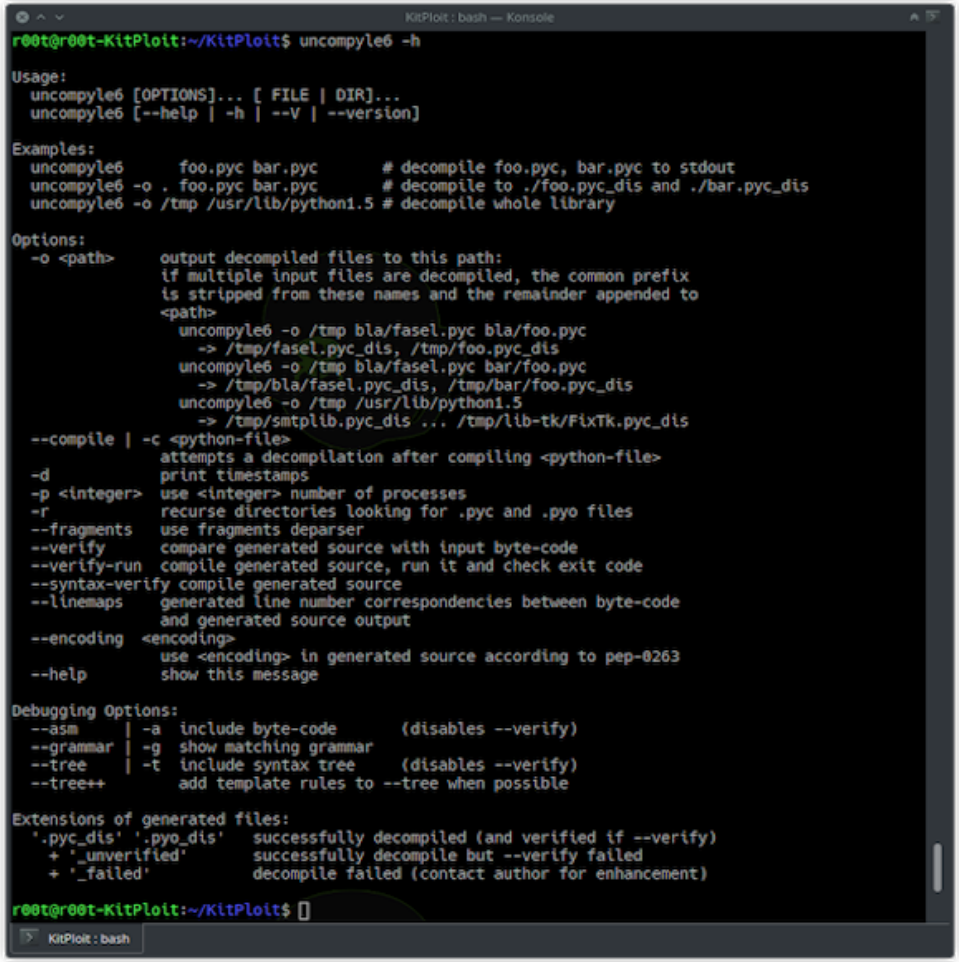
2. **Encryption Stength**
   - For these same tests and results I will determine strength of the encrypted algorithm. Without a better metric, I chose to compare the size of the encrypted files created to gauge strength.

Metrics

Number of Tests 100	Speed Simulation 
Pass/Fail Tests 	Accuracy 90%
 Compare Results	 Examine Hypothesis
 Record Conclusions	 Publish

Files on Github.

RESEARCH



IMPLEMENTATION

CONCLUSION

Closing Remarks.

There are only two kinds of companies:

1. Those that have been hacked.
2. Those that will be.

~ Robert Mueller

Best,

Brandon Rowe

Encryption

Comparison of AES and RSA

Download Research

Project Roadmap

IDEA

Compare encryption algorithms.

ENCRYPTION

Identify encryption algorithms.

OBJECTIVES

Create encyption tests.

TESTS

Performs tests for data.

DISCOVERIES

Present findings & comparisons.

CONCLUSION

Determine the best encryption.