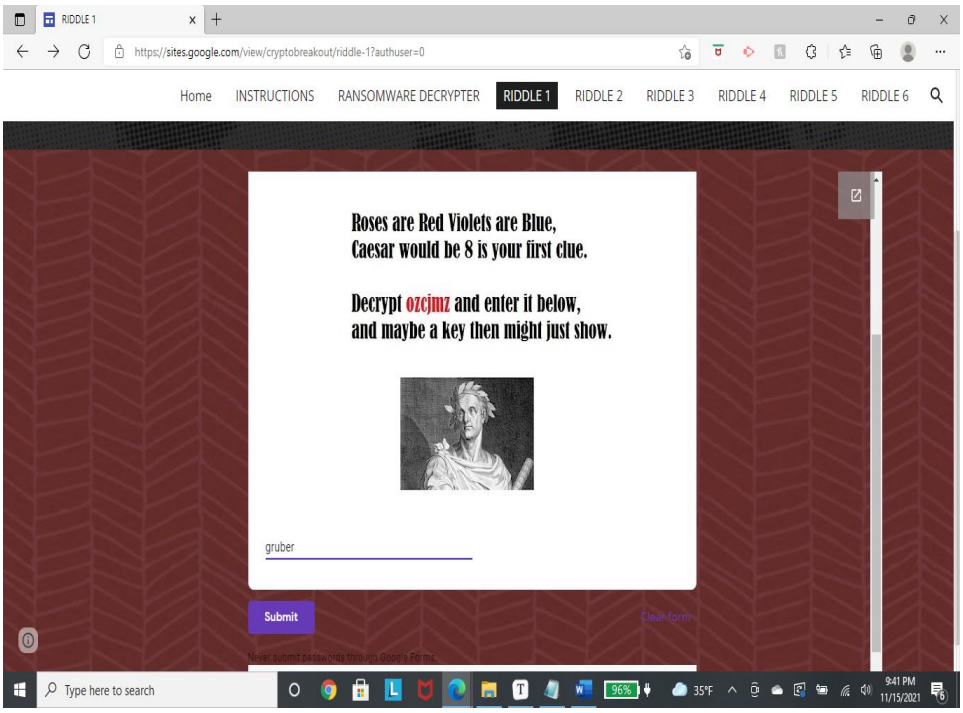
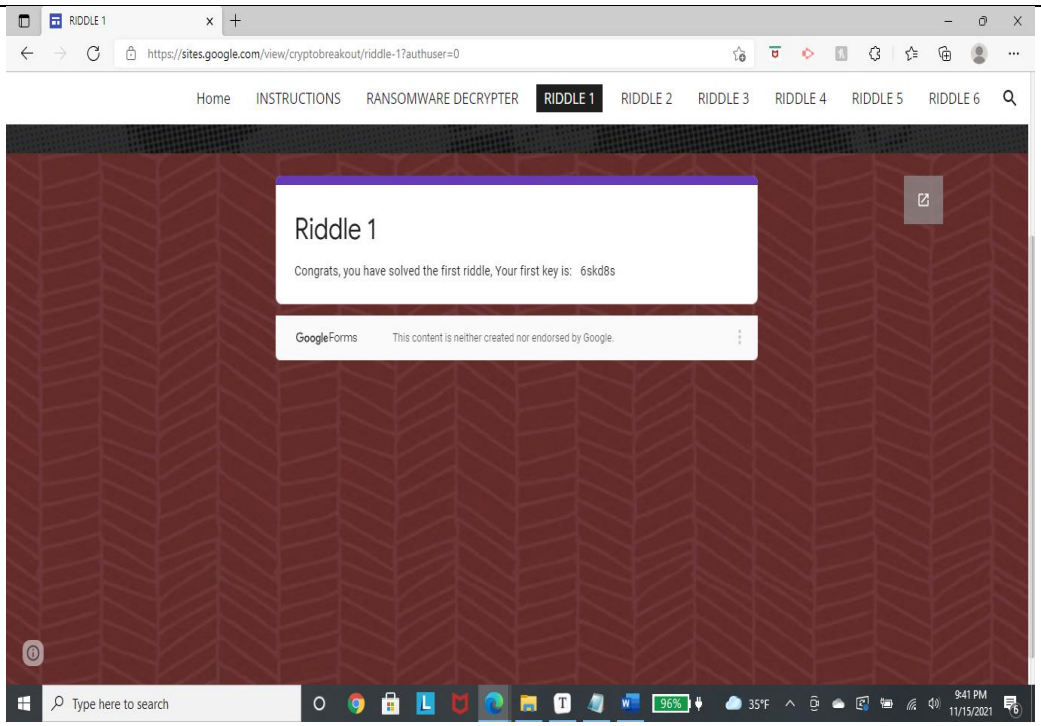
##10-Cryptography Homework: Ransomware Riddles

Riddle 1 Answer: **gruber** **The first key is:** **6skd8s**	This is how I decrypted the 1st riddle: o ---> g z ---> r c ---> u j ---> b m ---> e z ---> r ozcjmz ---> gruber Below are some captured screenshots: 



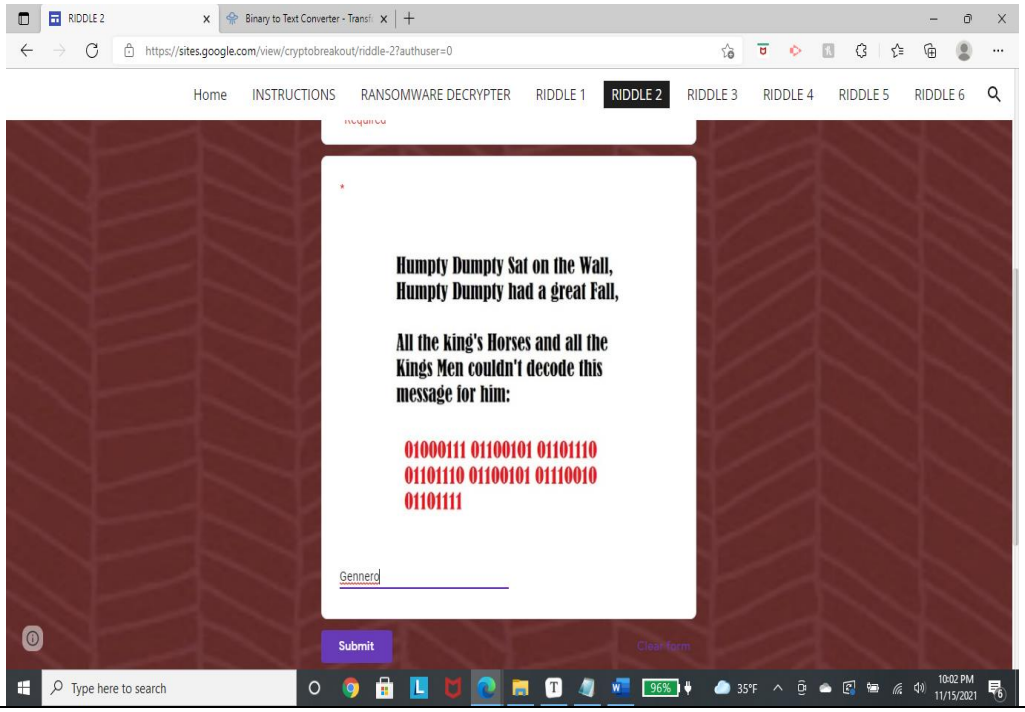
Riddle 2 Answer:

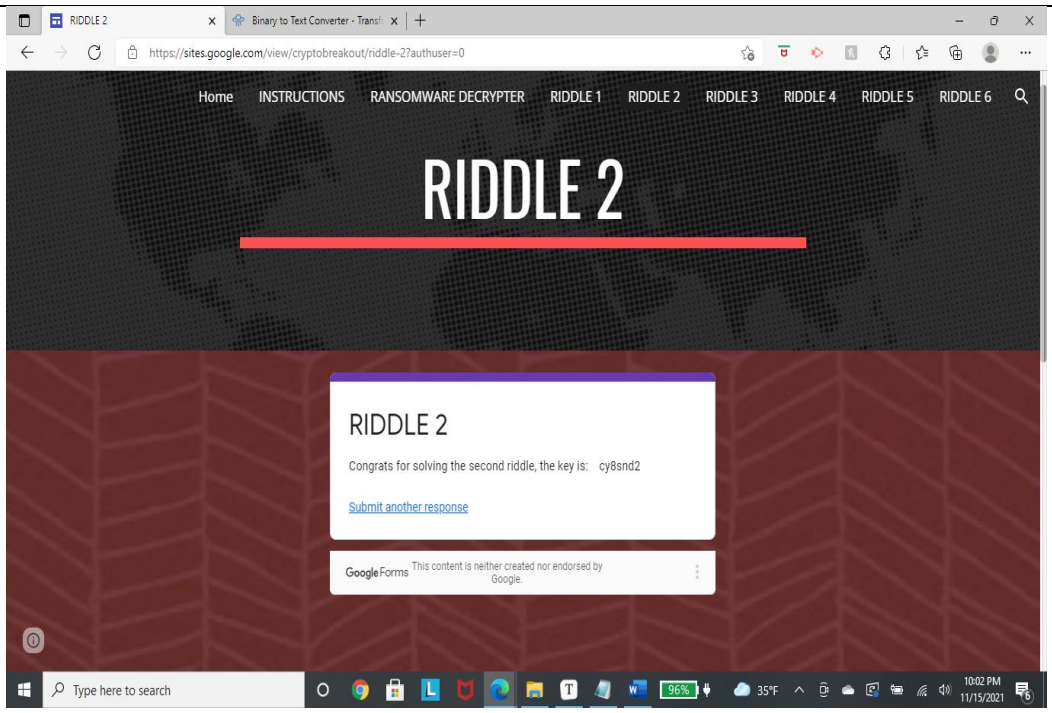
Gennero

The second key is: cy8snd2

Using the below website, I converted the Binary to Text:

[Binary to Text Converter - Transform Binary String to Text - Online - Browserling Web Developer Tools]

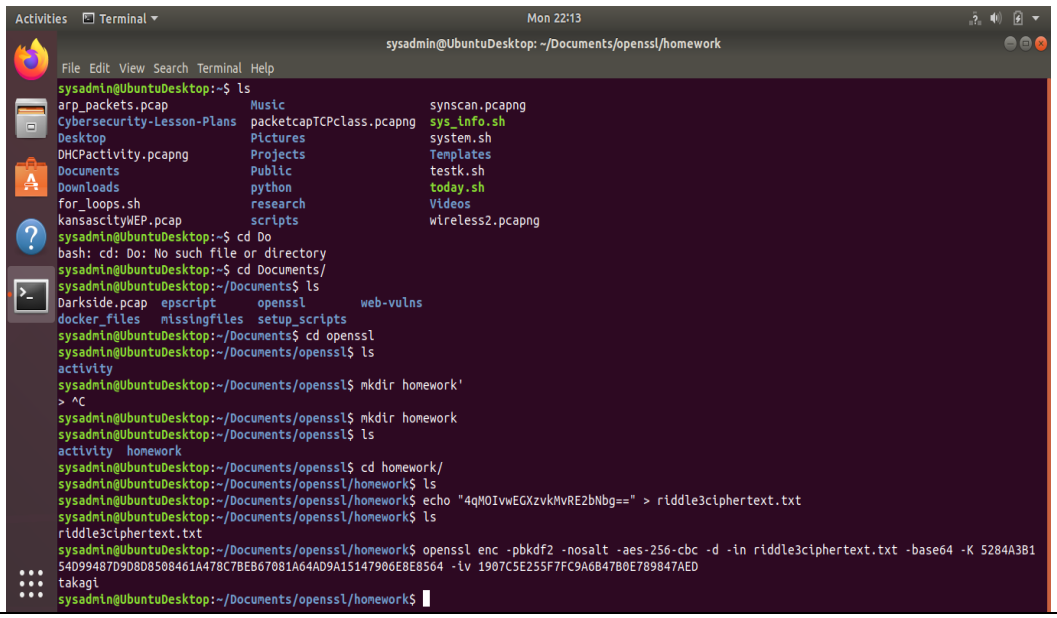


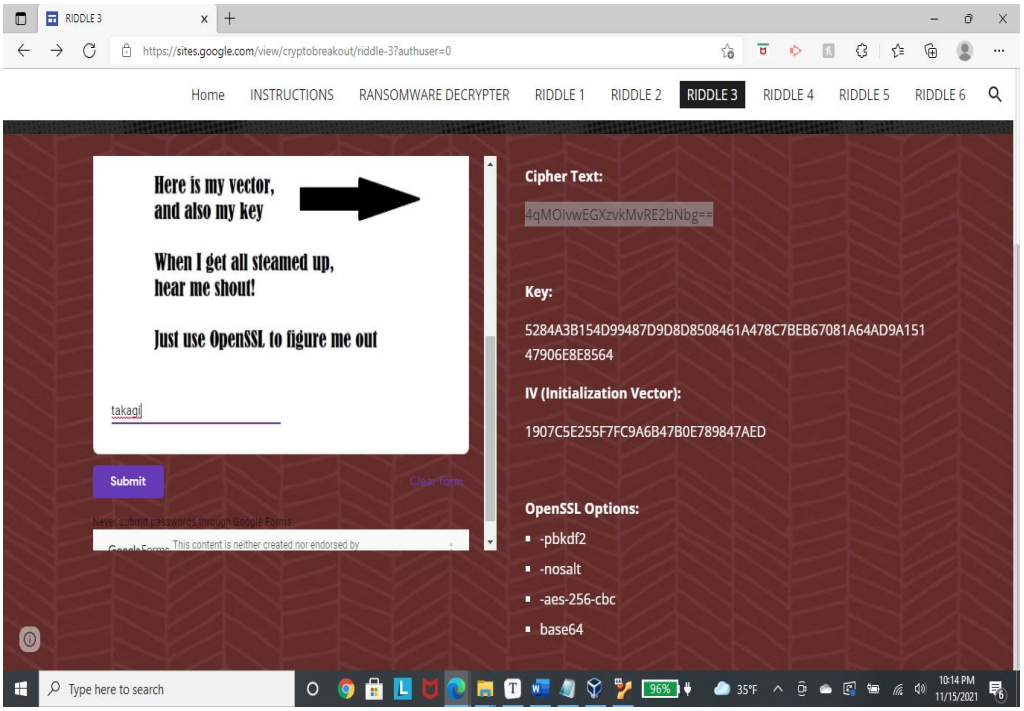


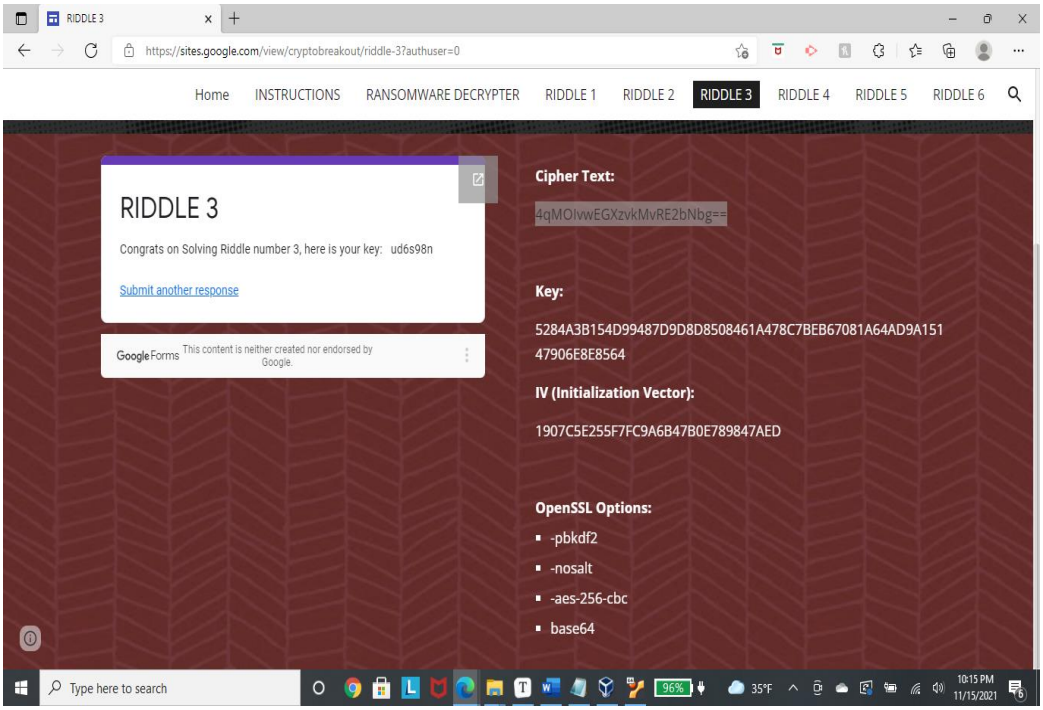
Riddle 3 Answer:
Takagi
The third key:
ud6s98n

Using the below openssl command and the cipher info, vector, key, I solved the 3rd riddle:

```
openssl enc -pbkdf2 -nosalt -aes-256-cbc -d -in riddle3ciphertext.txt -base64 -K 5284A3B154D99487D9D8D8508461A478C7BEB67081A64AD9A15147906E8E8564 -iv 1907C5E255F7FC9A6B47B0E789847AED
```







Riddle 4 Answers:

Answer 1: Jill's Public Key

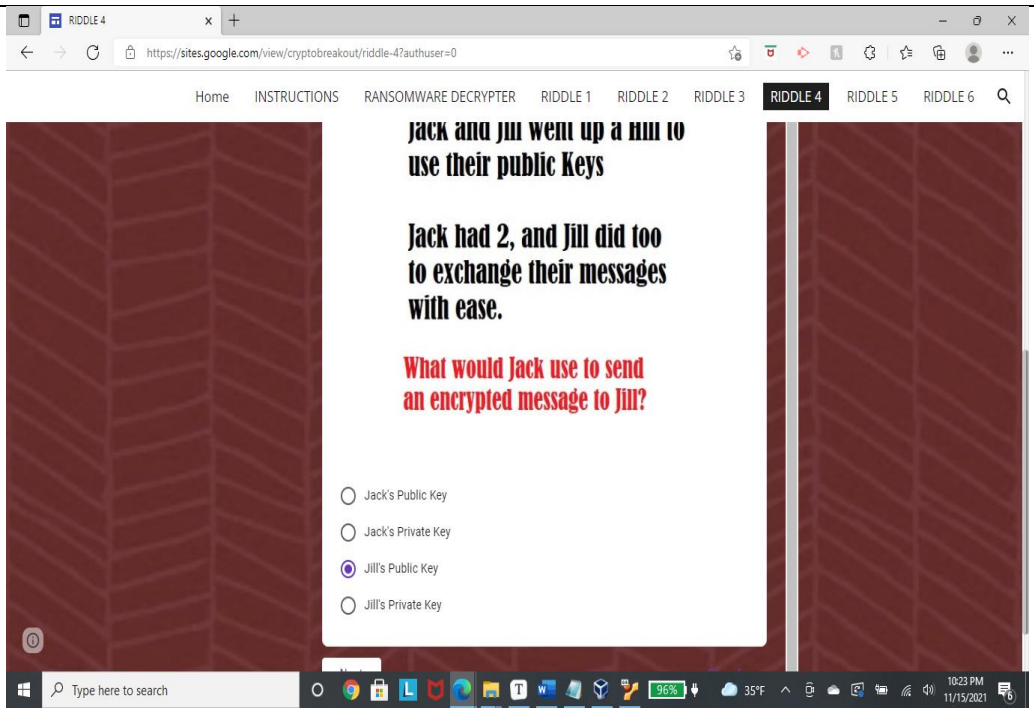
Below are screenshots of the answers to the 4 questions asked:

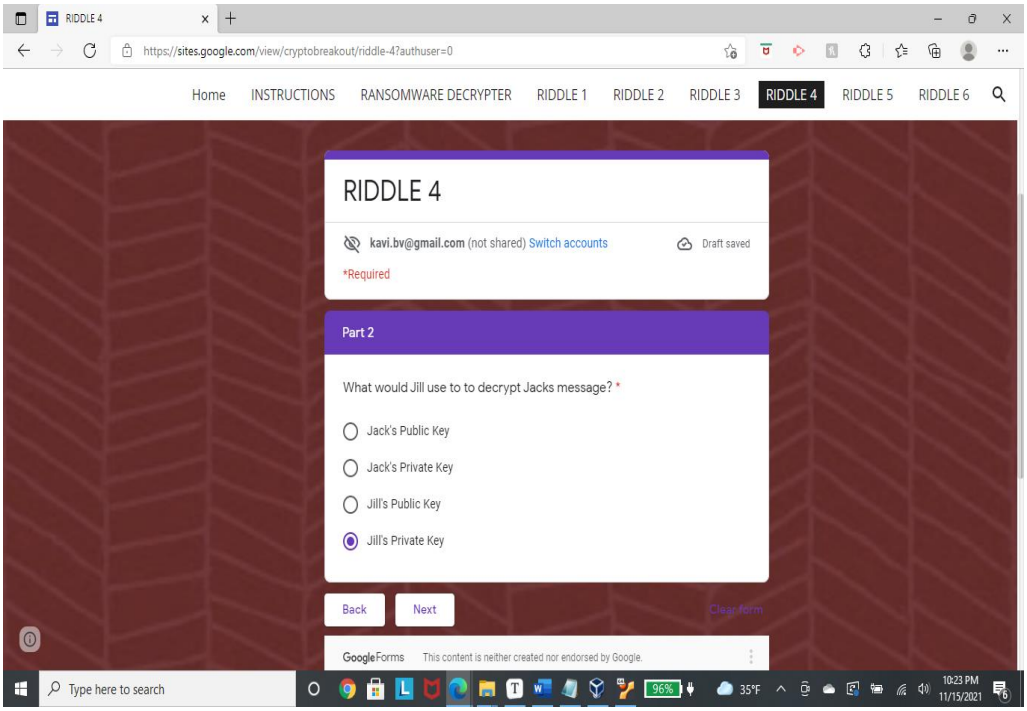
Answer 2: Jill's Private Key

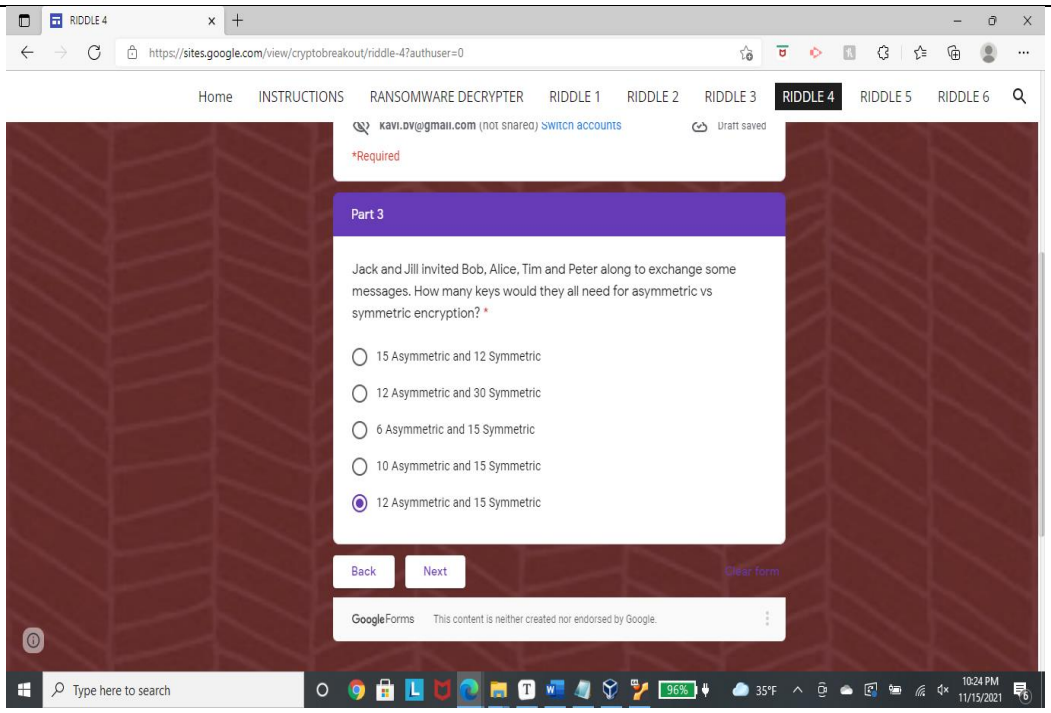
Answer 3: 12 Asymmetric and 15 Symmetric

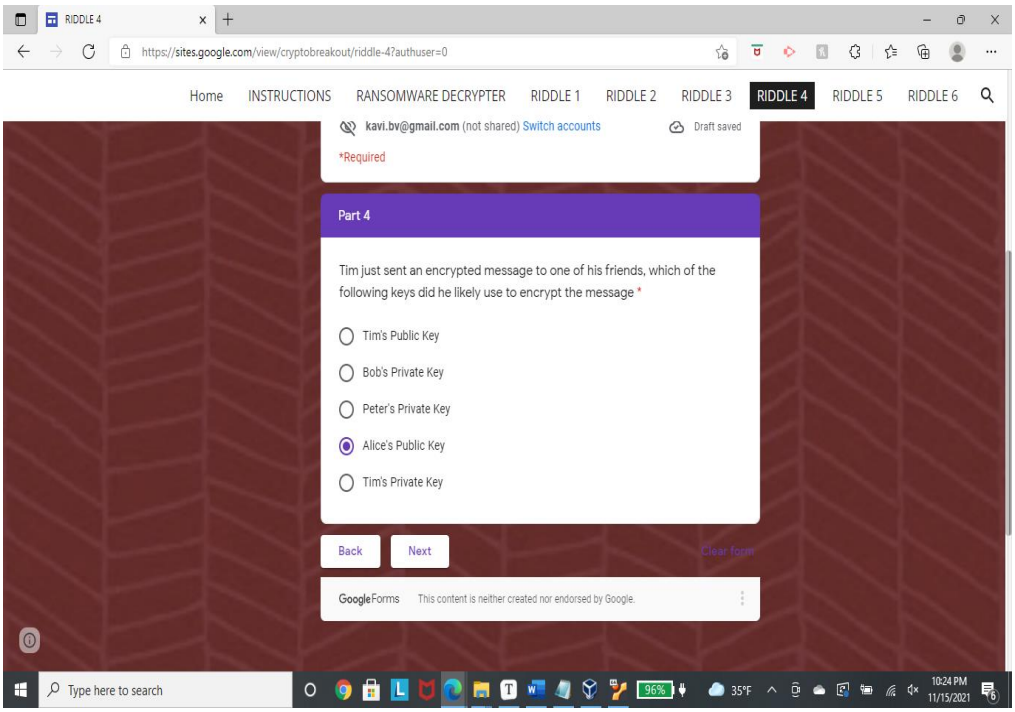
Answer 4: Alice's Public Key

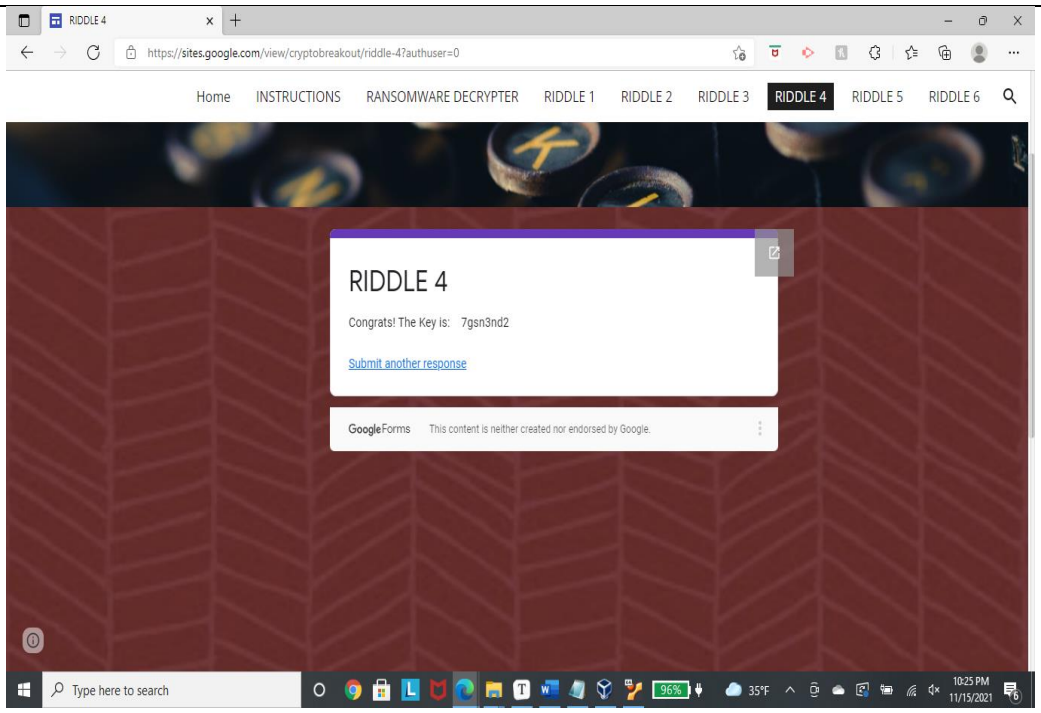
The fourth Key is: 7gsn3nd2



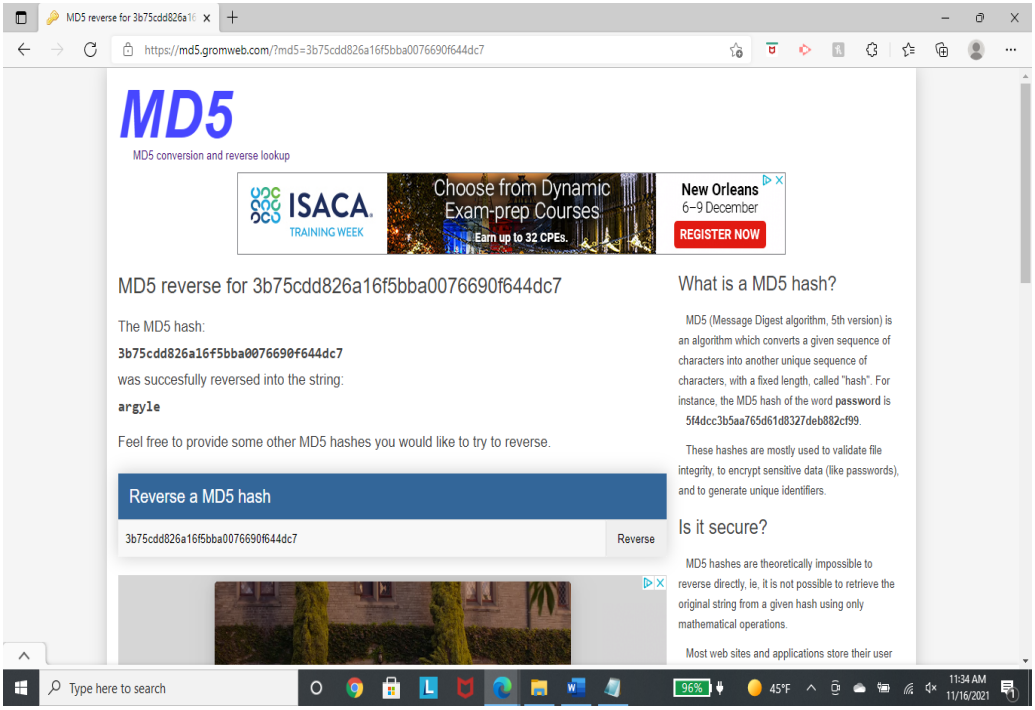


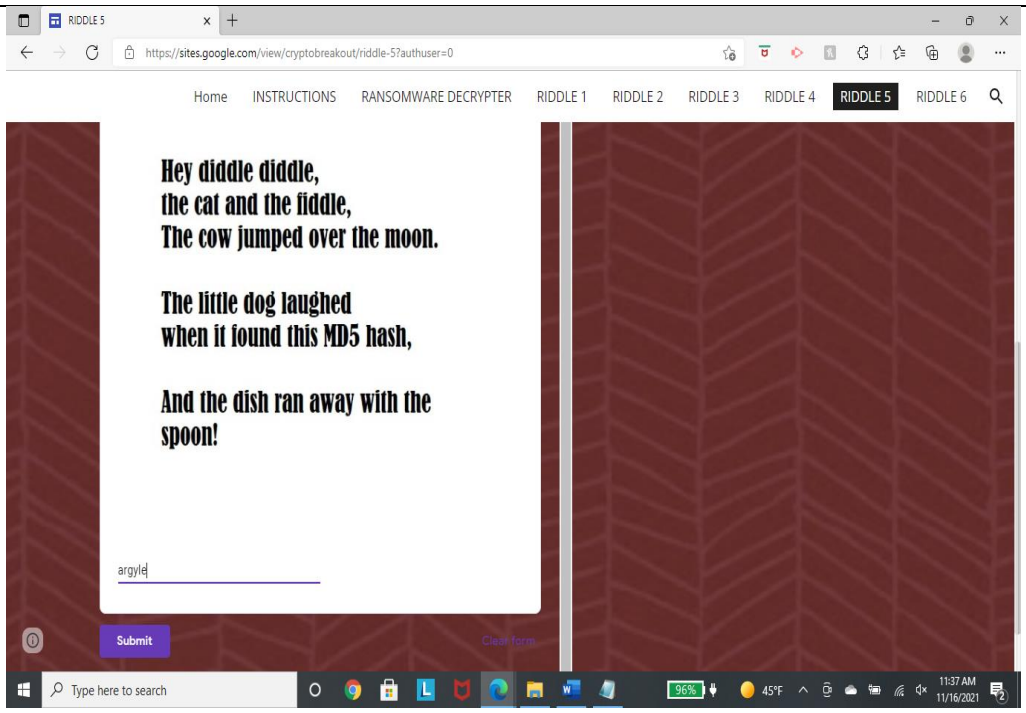

RIDDLE 4
https://sites.google.com/view/cryptobreakout/riddle-4?authuser=0
Home INSTRUCTIONS RANSOMWARE DECRYPTER RIDDLE 1 RIDDLE 2 RIDDLE 3 RIDDLE 4 RIDDLE 5 RIDDLE 6
kavi.bv@gmail.com (not shared) Switch accounts
Draft saved
*Required
Part 3
Jack and Jill invited Bob, Alice, Tim and Peter along to exchange some messages. How many keys would they all need for asymmetric vs symmetric encryption? *
15 Asymmetric and 12 Symmetric
12 Asymmetric and 30 Symmetric
6 Asymmetric and 15 Symmetric
10 Asymmetric and 15 Symmetric
12 Asymmetric and 15 Symmetric
Back
Next
Clear form
Google Forms This content is neither created nor endorsed by Google.
Type here to search
96%
35°F
10:24 PM
11/15/2021

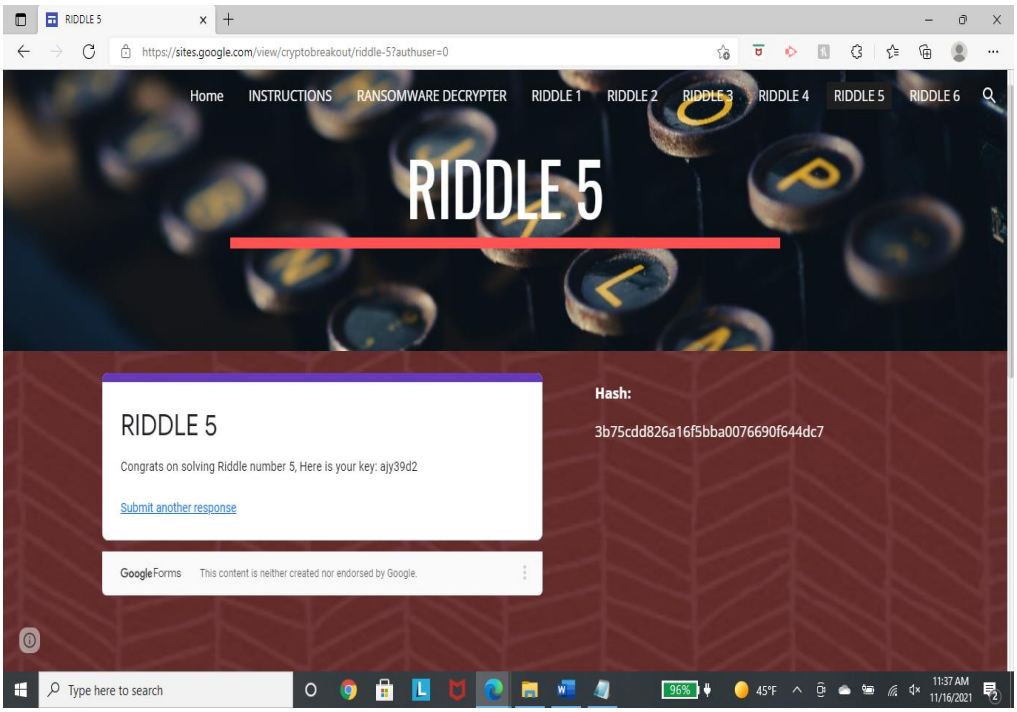

RIDDLE 4
https://sites.google.com/view/cryptobreakout/riddle-4?authuser=0
Home INSTRUCTIONS RANSOMWARE DECRYPTER RIDDLE 1 RIDDLE 2 RIDDLE 3 RIDDLE 4 RIDDLE 5 RIDDLE 6
kavi.bv@gmail.com (not shared) Switch accounts
Draft saved
*Required
Part 4
Tim just sent an encrypted message to one of his friends, which of the following keys did he likely use to encrypt the message *
Tim's Public Key
Bob's Private Key
Peter's Private Key
Alice's Public Key
Tim's Private Key
Back
Next
Clear form
Google Forms This content is neither created nor endorsed by Google.
Type here to search
96%
35°F
10:24 PM
11/15/2021



Riddle 5 Answer:
argyle
The fifth key is:
ajy39d2





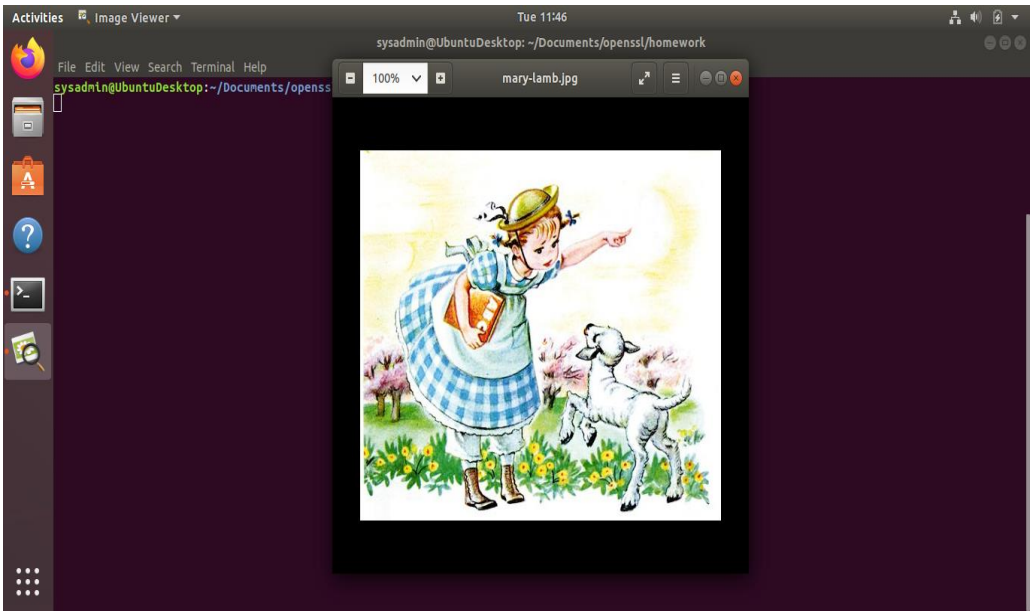


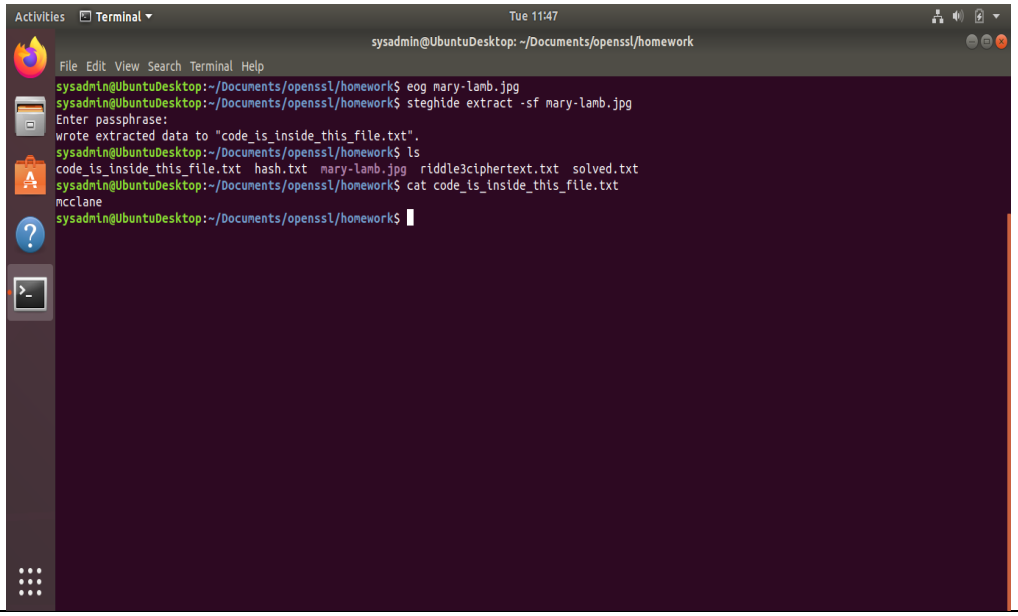
Riddle 6 Answer:
mcclane
The sixth key is:
7skahd6.

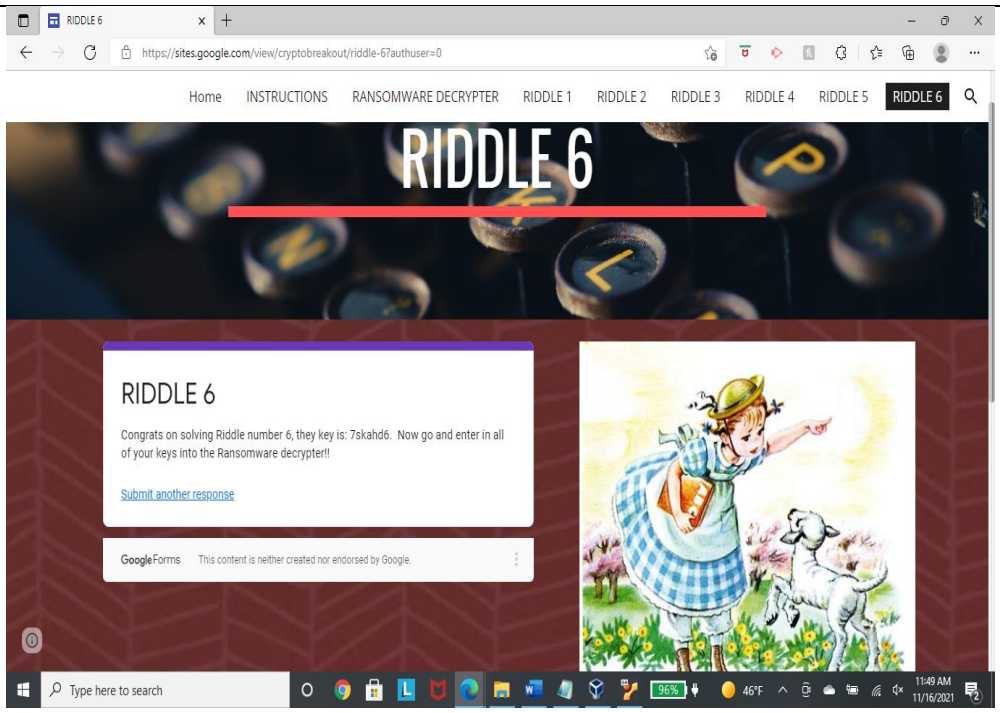
Using below command, I extracted the code from the mary-lamb.jpg file:

```
steghide extract -sf mary-lamb.jpg
```

The hidden code is extracted into a file - code_is_inside_this_file.txt. The contents of this file reveal the answer for this riddle.







Ransomware Decrypter

Congratulations! You have decrypted the Ransomware! All the Nakatomi Hospital Records are now Decrypted!

After entering all the keys captured by solving the 6 riddles, I got the below screen, indicating Success.