Cryptography Coursework

# Part 1

## Ciphertext

Ufs cpojl wt y kplrsmit kodfwoc, pvr ffoijpst qitrojlse ctgmfu rc nyworojl wu. Wcv kitr hsywo wcvp psywo rc dmbtgrfp omj dpqgjzwmghjcg cctpps nyyjlu ecqjqwplg. Mch zmis kwob synzpps ock qjodcg blr qpccypjjwugst. Jsbpb gpcn mhicft; uwtbcn qvbpse gg xggema fvdblrfb. Kicb gyqfb kjrv tmafrvjlu egtgcfflh blr egtggqvjh, dmbtgrfp wu y qiyzmcbhc.

## Plaintext

## The brain is a wondrous machine, but requires sustained effort to maintain it. You must train your brain to consider all possibilities before making decisions. Let your mind explore new places and probabilities. Learn from others; wisdom shared is wisdom expanded. When faced with something different and difficult, consider it a challenge.

## Key

1 24 14

## Code

## def reformat(plain, cipher):

## index = 0; output = ""

## for c in cipher:

## if re.match(r"[a-zA-Z]", c):

## output += plain[index].upper() if re.match(r"[A-Z]", c) else plain[index].lower()

## index += 1

## else:

## output += c

## return output

## ciphertext = "Ufs cpojl wt y kplrsmit kodfwoc, pvr ffoijpst qitrojlse ctgmfu rc nyworojl wu. Wcv kitr hsywo wcvp psywo rc dmbtgrfp omj dpqgjzwmghjcg cctpps nyyjlu ecqjqwplg. Mch zmis kwob synzpps ock qjodcg blr qpccypjjwugst. Jsbpb gpcn mhicft; uwtbcn qvbpse gg xggema fvdblrfb. Kicb gyqfb kjrv tmafrvjlu egtgcfflh blr egtggqvjh, dmbtgrfp wu y qiyzmcbhc."

## print(reformat("".join([chr((ord(c) - ord("a") - [1,24,14][i%3]) % 26 + ord("a")) for i,c in enumerate(re.sub(r"[^a-z]", "", ciphertext.lower()))]), ciphertext))

## Evaluation

Vingere Cipher

# Part 2

## Ciphertext (Hex encoded)



## Plaintext

A 24 year old boy seeing out from the train’s window shouted…

“Dad, look the trees are going behind!”

Dad smiled and a young couple sitting nearby, looked at the 24 year old’s childish behavior with pity, suddenly he again exclaimed…

“Dad, look the clouds are running with us!”

The couple couldn’t resist and said to the old man…

“Why don’t you take your son to a good doctor?” The old man smiled and said…“I did and we are just coming from the hospital, my son was blind from birth, he just got his eyes today.”

Every single person on the planet has a story. Don’t judge people before you truly know them. The truth might surprise you.

## Key

0x13 0x20

## Code

with open("secret.hex","rb") as f: print(bytearray([c^[0x13,0x20][i%2] for i,c in enumerate(f.read())]).decode("cp1252"))

## Evaluation

XOR Cipher

# 0x52 = 0b0101\_0010

# xor 0x13 = 0b0001\_0011

# = 0x41 = 0b0100\_0001

# Part 3

## Ciphertext

knztzgekbqekiqcevp`kdqaxzpjuknvpvpnqknztgrvpzzhokn~p`{eu`rvtddzzs

## Plaintext

## Therearemorevolcanoesonvenusthananyotherplanetwithinoursolarsystem

## Code

???

## Evaluation