7402 Assignment 1 Testing

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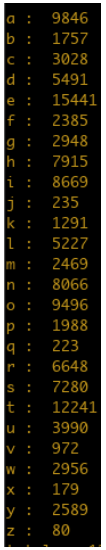
Usage:

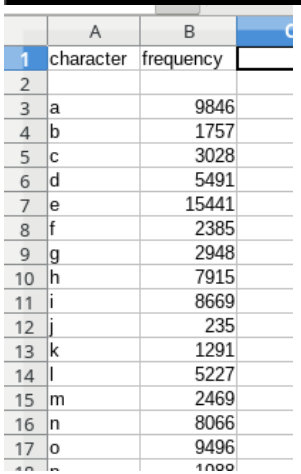
$ python a1.py -m <plain text file> -c <cipher text file> -o <output csv file>

e.g. python a1.py -m alice.txt -c alice_encoded.txt -o alice_results.csv

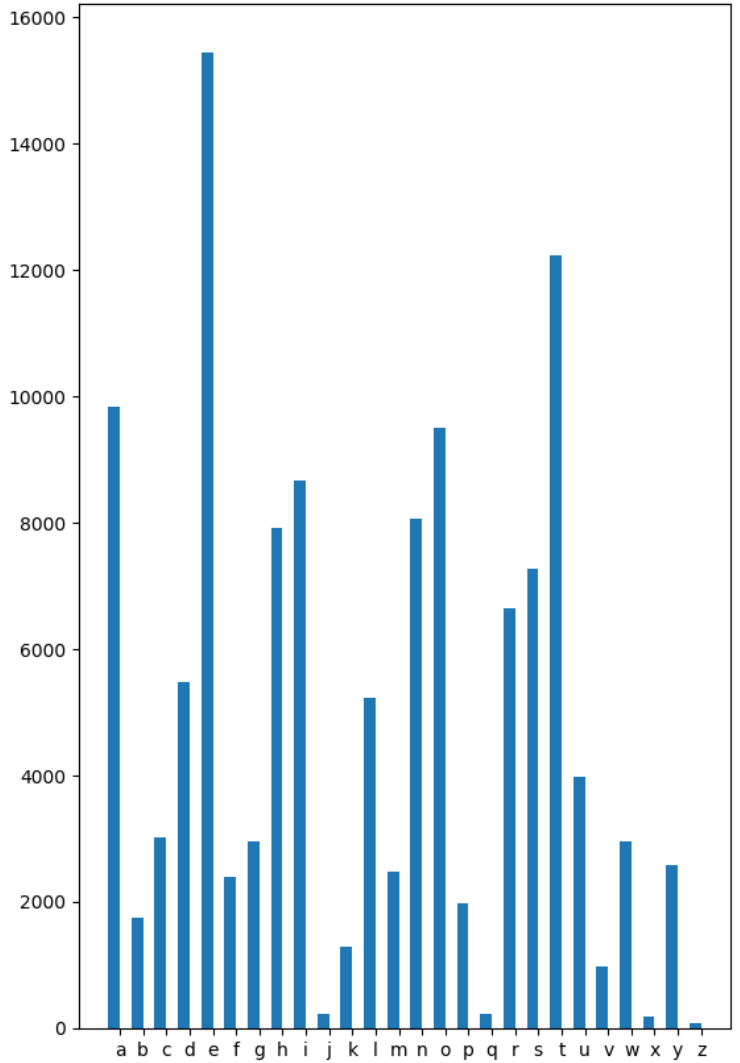
Testing:

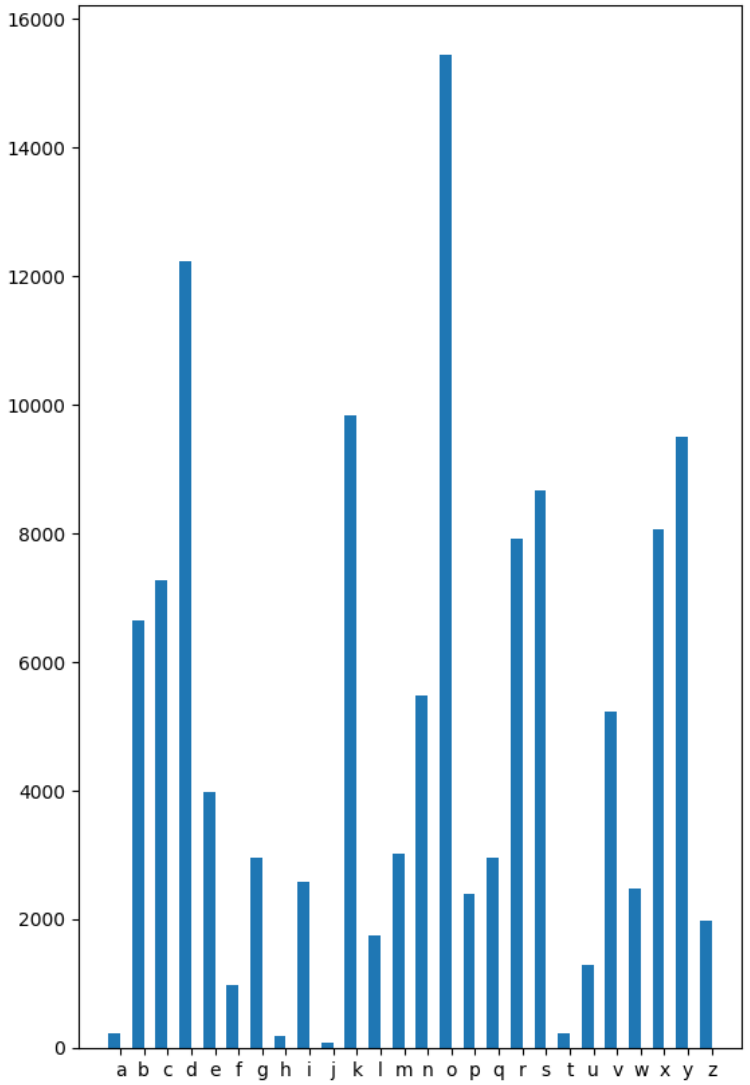
Task	Input	Output
Print frequency of each character in plain text file	python a1.py -m alice.txt -c alice_encoded.txt -o alice_results.csv	

Print frequency of each character in cipher text file	python a1.py -m alice.txt -c alice_encoded.txt -o alice_results.csv	a : 223 b : 6648 c : 7280 d : 12241 e : 3990 f : 972 g : 2956 h : 179 i : 2589 j : 80 k : 9846 l : 1757 m : 3028 n : 5491 o : 15441 p : 2385 q : 2948 r : 7915 s : 8669 t : 235 u : 1291 v : 5227 w : 2469 x : 8066 y : 9496 z : 1988
Print distribution of each character in plain text file	python a1.py -m alice.txt -c alice_encoded.txt -o alice_results.csv	distribution: 0.0797828376954866 distribution: 0.014237095859330686 distribution: 0.024536099181589822 distribution: 0.04449396321205737 distribution: 0.125119520298193 distribution: 0.019325824487480756 distribution: 0.023887853496475164 distribution: 0.06413580747103152 distribution: 0.07024552305323718 distribution: 0.0019042217000243091 distribution: 0.010461064743537802 distribution: 0.042354752451179 distribution: 0.020006482456851146 distribution: 0.06535937120168545 distribution: 0.07694676282310996 distribution: 0.016108905275099263 distribution: 0.0018069848472571104 distribution: 0.05386921643302812 distribution: 0.05899035734543392 distribution: 0.09918969289360667 distribution: 0.03233125354509359 distribution: 0.0078761850741431 distribution: 0.02395267806498663 distribution: 0.0014504497204440483 distribution: 0.020978850984523133 distribution: 0.0006482456851146585

Print distribution of each character in cipher text file	python a1.py -m alice.txt -c alice_encoded.txt -o alice_results.csv	distribution: 0.0797828376954866 distribution: 0.014237095859330686 distribution: 0.024536099181589822 distribution: 0.04449396321205737 distribution: 0.125119520298193 distribution: 0.019325824487480756 distribution: 0.023887853496475164 distribution: 0.06413580747103152 distribution: 0.07024552305323718 distribution: 0.0019042217000243091 distribution: 0.010461064743537802 distribution: 0.042354752451179 distribution: 0.020006482456851146 distribution: 0.06535937120168545 distribution: 0.07694676282310996 distribution: 0.016108905275099263 distribution: 0.0018069848472571104 distribution: 0.05386921643302812 distribution: 0.05899035734543392 distribution: 0.09918969289360667 distribution: 0.03233125354509359 distribution: 0.0078761850741431 distribution: 0.02395267806498663 distribution: 0.0014504497204440483 distribution: 0.020978850984523133 distribution: 0.0006482456851146585
Verify distribution of characters in plain text is equal to 1	python a1.py -m alice.txt -c alice_encoded.txt -o alice_results.csv	total distribution = 1.0
Verify distribution of characters in cipher text is equal to 1	python a1.py -m alice.txt -c alice_encoded.txt -o alice_results.csv	total distribution = 1.0
Create csv file with character distributions of plain text and cipher text	python a1.py -m alice.txt -c alice_encoded.txt -o alice_results.csv	-rw-r--r-- 1 aing aing 482 Jan 23 23:13 alice_results.csv 

	A	B
1	character	frequency
2		
3	a	9846
4	b	1757
5	c	3028
6	d	5491
7	e	15441
8	f	2385
9	g	2948
10	h	7915
11	i	8669
12	j	235
13	k	1291
14	l	5227
15	m	2469
16	n	8066
17	o	9496

Create graph for plain text's character frequency	python a1.py -m alice.txt -c alice_encoded.txt -o alice_results.csv	

Create graph for cipher text's character frequency	python a1.py -m alice.txt -c alice_encoded.txt -o alice_results.csv	
Print conditional probabilities of e, t, a, i, o, u	python a1.py -m alice.txt -c alice_encoded.txt -o alice_results.csv	Conditional Probabilities e: 0.004812289242238193 t: 0.003814988188215641 a: 0.003068570680595638 i: 0.0027017508866629685 o: 0.0029594908778119216 u: 0.00124350975173436 9