

Number	Type	Problem	Test input	Expected answer	Points
1	Cryptography	<p><b>Only hashlib, crypt and cryptography are available for import. Please add appropriate imports.</b> You are given a username and password for that user. You are also given a list of valid MD5 password hashes. These password hashes have been produced by concatenating username and password separated by ASCII 1 (non-printable character Start of Header). Please complete the code so that if the combination username, password is valid (i.e., in the list of password hashes) then it returns true else false. Both username and password are case-sensitive.</p>	user password 2b1e18e4b0a44fed21797fe4c877743b f3e35f0076732348535e668b2c76d62c 4f717b966a7988072cfb0141efc8c0fe	1	Sample
			nonuser password 2b1e18e4b0a44fed21797fe4c877743b f3e35f0076732348535e668b2c76d62c 4f717b966a7988072cfb0141efc8c0fe	0	Sample
			user1 password2 2b1e18e4b0a44fed21797fe4c877743b f3e35f0076732348535e668b2c76d62c 4f717b966a7988072cfb0141efc8c0fe	1	1
			myuser P\$34D345fgr 2b1e18e4b0a44fed21797fe4c877743b f3e35f0076732348535e668b2c76d62c 4f717b966a7988072cfb0141efc8c0fe	0	1
			myuser2 P\$34D345fgr 2b1e18e4b0a44fed21797fe4c877743b f3e35f0076732348535e668b2c76d62c 4f717b966a7988072cfb0141efc8c0fe	1	1
			user1 password 2b1e18e4b0a44fed21797fe4c877743b f3e35f0076732348535e668b2c76d62c 4f717b966a7988072cfb0141efc8c0fe	0	1

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2	Cryptography	Given a Caesar cipher encoded value and shift; decode it. The strings will be case-sensitive.	Zbocsnoxd 10	President	Sample
			Rsqrvsqrdon 10	Highlighted	0.5
			DPEFcvtUFS 1	CODEbuSTER	0.5
3	Cryptography	Encode a value using RailFence encoder with 2 rails. The value may contain lowercase letters. Uppcase the letters first and then remove all characters that are not uppercase A-Z before encoding.	How are you?	HWRYUOAE0	sample
			Pneumonoultramicroscopicsilicovolcanoconiosis	PEMNUTAIRSOISLCVLAOOISSNUOOLRM COCPCIIOOCNCNOI	sample
			Today is seventh.	TDYSEETOAISVNH	1
			The rabbit's leg was broken.	TEABTLGABOEHRBISEWSRKN	2
4	General	Find mode of an array of integers. The array may not be sorted. Also, for different test cases, the array could be of different length.	2 1 1	1	Sample
			5 1 4 2 2 2	2	1
			5 1 2 3 3 4	3	1
			7 3 2 1 -4 -5 -4 -4	-4	1
5	General	Test whether the given string is a palindrome or not. Ignore case and punctuation marks when testing for palindrome.	Hannah	1	Sample
			Hanna	0	Sample
			Able was I ere I saw Elba	1	1
			A man, a plan, a canal – Panama	1	2
			A man, a plan, a camel – Panama	0	1
			obviously not	0	1

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6	General	Given an array of integers test whether all of them are coprimes. They are all coprimes if each number in the array is a coprime of ALL other numbers. Note: Allowed time duration has been doubled	2	1	Sample
			1 2		
			2	0	Sample
			2 4		
			2	1	2.5
			7 8		
			3	1	2.5
1 2 3					
5	0	2.5			
1 53 23 54 78					
5	1	2.5			
11 23 373 3041 7919					