

Backend Engineers Challenge

- Read the challenge carefully.
- Think about a solution.
- If at that point you have any questions, or something seem strange with these instructions or the challenge itself please reach out to the person who handed you this material.
- Make sure you set yourself a timebox for the solution. The purpose of this challenge is to present your skills and the way you are thinking. This is not meant as a challenge for that you spend a week of your precious time with. Part of the challenge is that you show reasonability in considering tradeoffs between reaching the goal and the time invested.
- Do your research.
- There is a prebuilt solution for virtually any coding problem one can think of to be found on the internet. It's common practice and legitimate to make use of those but it's also good practice to make that transparent. Keep in mind that most of the coding problems are derived from real-world problems. It's worth having a look into the noncoders perspective of the problem. Wikipedia has in many cases proven to be a good starting point.
- Design your solution.
- Do your code.
- Make sure it's a bit organized and conveniently runnable.
- Send it in to the person who handed you this material.
- You might be asked to present and/or explain parts of your work process and/or parts of your solution in the subsequent interview meeting.

(1) Solve the following programmatically using JavaScript ES6:

4	1	9		8				
5		8						6
			5					
	9		6					4
	4							3
6			2	9			8	
		2	3		1			
					9	2	5	
	7							

(2) As an extra (meaning non-mandatory) challenge, also solve those:

	2					3	9	
9						8		
	1			5	9			
		9				4		
8		4	5					9
			4	3			2	7
2		6	7	1				3

1			5				3	
2				7				1
								8
6					5			
			2		3	9		
	9	3					7	
		4						
8		7				5		
3				4	2			

			2	4	8	5		
	4	9		6				
	8							
			6					2
						3		
	5		8	3				7
	1							9
2				9		7	5	
								8

		7					3	
5		1	2					
8	3	4	9		7			6
3	7				6		4	2
	2							
			7	9				
	8			6				
	1							
				7				4

7				2				8
1	8	3	6		5			4
			2		1			
	9					1		
6								
	1		8				7	4
8	7	1			6		2	
		4	7				6	
	5				4			

		J	E	I	A				G	O	N	M			
G		P	I	B	K	J	H				F	A		O	
		F		D	E	G			B	P		L		K	C
			H	M	O		L	F	K	E	A	P	G		J
	B	P	G	K		D	F	J		N	I	A			H
	E	M		C	O	B	I	P	A	H	F		D	N	
	D	I	H				N	E	K	G	C	P	J	M	F
	F	N				M	G					L	I	E	P
	J	M		N	E	K	D				L	C	H		
	I	D		G			M	A	B	J	P	N			B
	L	A	C			G	O	I	B					J	D
	P		K	N	L	J			E	F		D		O	A
	A	F		L	K	J	H	B	D	O				I	G
		E			D	J	I		P	C	F	G	O	K	L
			O	P	E	F	C	D		L	I	M		F	H
	K	C		M	F				N	H				J	P

	3			8	5			2
		9					5	
	5							1
3			6					8
	2	4	8	5				3
	8	1				4		5
		2	3		7			
7				2	4			
	6							7

3						8	
5				4			
	3			8		7	4
				6			2
			9	7			1
		3				2	
			2		5	9	6
		6	1				7

As a solution to the extra in (2) it's also fine if you can explain why your solution in (1) can or cannot satisfy those presented in (2). In case of the latter, you should be able to explain what your approach lacks to satisfy those in (2).

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