






SELLING FURNITURE

For this challenge, imagine you're managing a furniture factory. The furniture is manufactured using three types of blocks. The price of a block depends on the size and not the color. The cost of connecting two blocks is 200 dinars. All necessary information is in the table below.

Name	No. of items	Acquisition cost per item	Photo
Large block	9	600 dinars	
Medium-sized block	5	500 dinars	
Small block	15	400 dinars	

Each team in the competition represents one factory and you're all manufacturing the same product. The table below lists the names, parts and market prices of the products. Bear in mind that you have to connect 4 blocks when manufacturing a table (each of the two small blocks is connected to the large ones).

Product	Parts			Market price	Photo
	Large	block/Medium-sized	block/Small block		
Table	2	-	2	3,200 dinars	
Large chair	1	-	2	2 400 dinars	
Small chair	-	1	2	2 200 dinars	
Taboret	-	1	1	1 600 dinars	

By completing the following tasks, you are fighting for your place on the furniture market. Try to answer to the best of your abilities. This could be a good starting point for a victory in the finals

Task 1: What is the maximum number of tables you can manufacture using the available elements?

Task 2: The box in front of you contains the elements you have at your disposal. Use them to make furniture that will have the highest possible price on the market. In order to complete this task, list the items you have manufactured and calculate the total price. How much PROFIT could you make from the furniture? As the answer to this question, send the total PRICE and total PROFIT. Return the furniture items in the box.

Task 3: Imagine the committee gave you a 100,000 dinar loan to order the blocks and assemble the furniture. Your task is to use this money to make the highest possible PROFIT. Write down your order, the items you would make and why it would make the highest profit?

Task 4: You have received an offer from the committee to design an item of furniture you can assemble using the available blocks. What would be the price of the furniture on the market and how much profit would you make from it? Please provide a detailed explanation.

At 3:30 PM, after solving the problem and the break, you will present the furniture to the committee. The presentation should last for no more than 3 minutes. Include the file with the presentation in the folder containing the other answers.

Task 5: The problem you are solving is a highly simplified real problem from the furniture industry. Many things have not been taken into consideration. List the elements you think should be added to make the problem more realistic.





TIME MACHINE

Are you a fan of science fiction?
If so, this is the perfect task for you.

Today, April 20, 2019, at precisely 2 PM
a time portal will open transporting you
20 hours into the past!

Don't fear meeting yourself from the past –
it'll just be you, but with a memory from the
future.

Warning:
Don't try to convince people you went back
in time – no one will believe you!



Task 1: So, once you're at this very place yesterday at 6 PM, you will have the memory you have now, which you will also have after 3 hours of problem solving, along with 1,000 dinars which you are to use to earn as much money as possible. Use your imagination and devise a plan.

Task 2: A memory of the future is a superpower you can use to earn good money, as stated in the previous task. Think of another purpose for your superpower. You can do something kind and noble.

