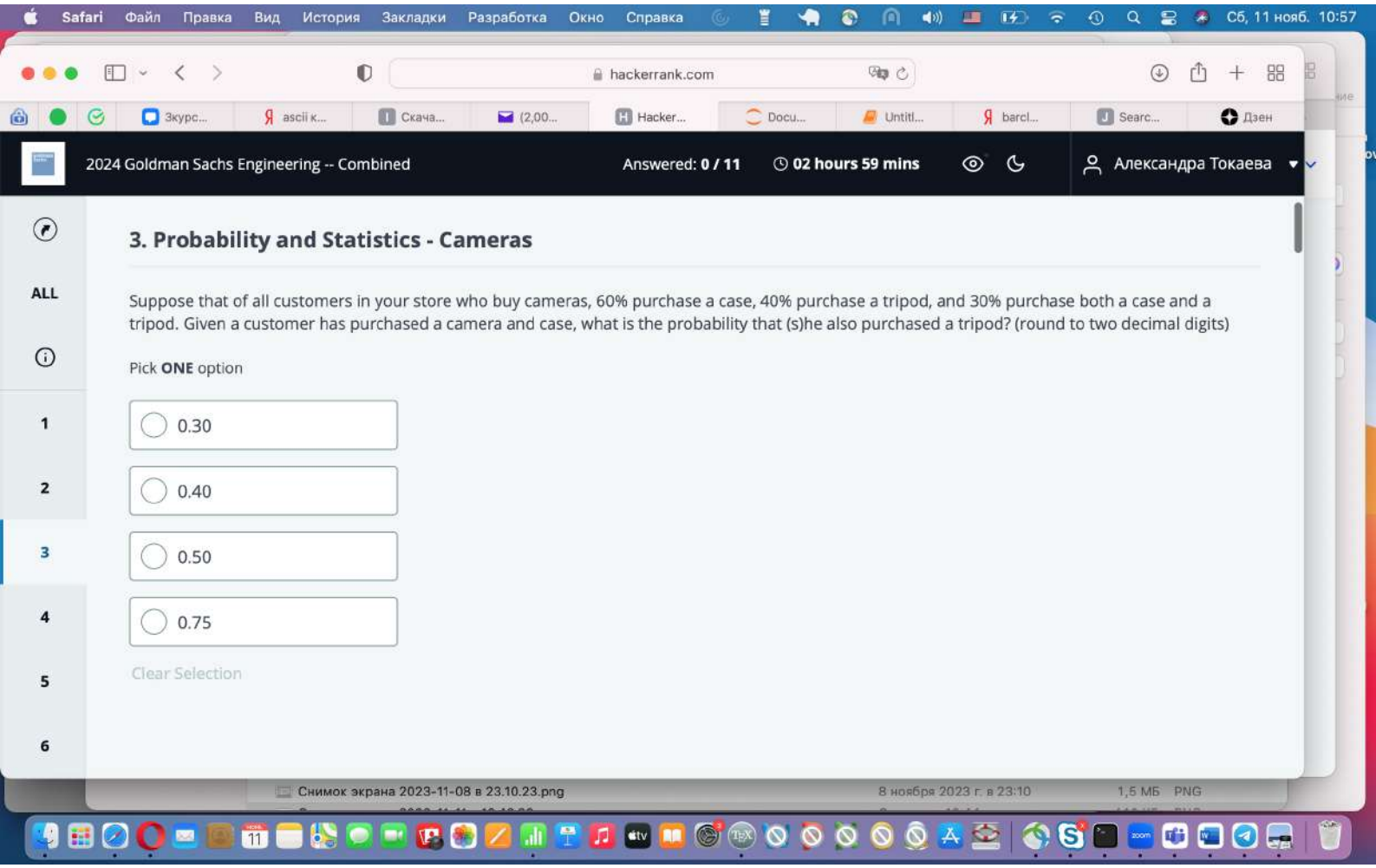
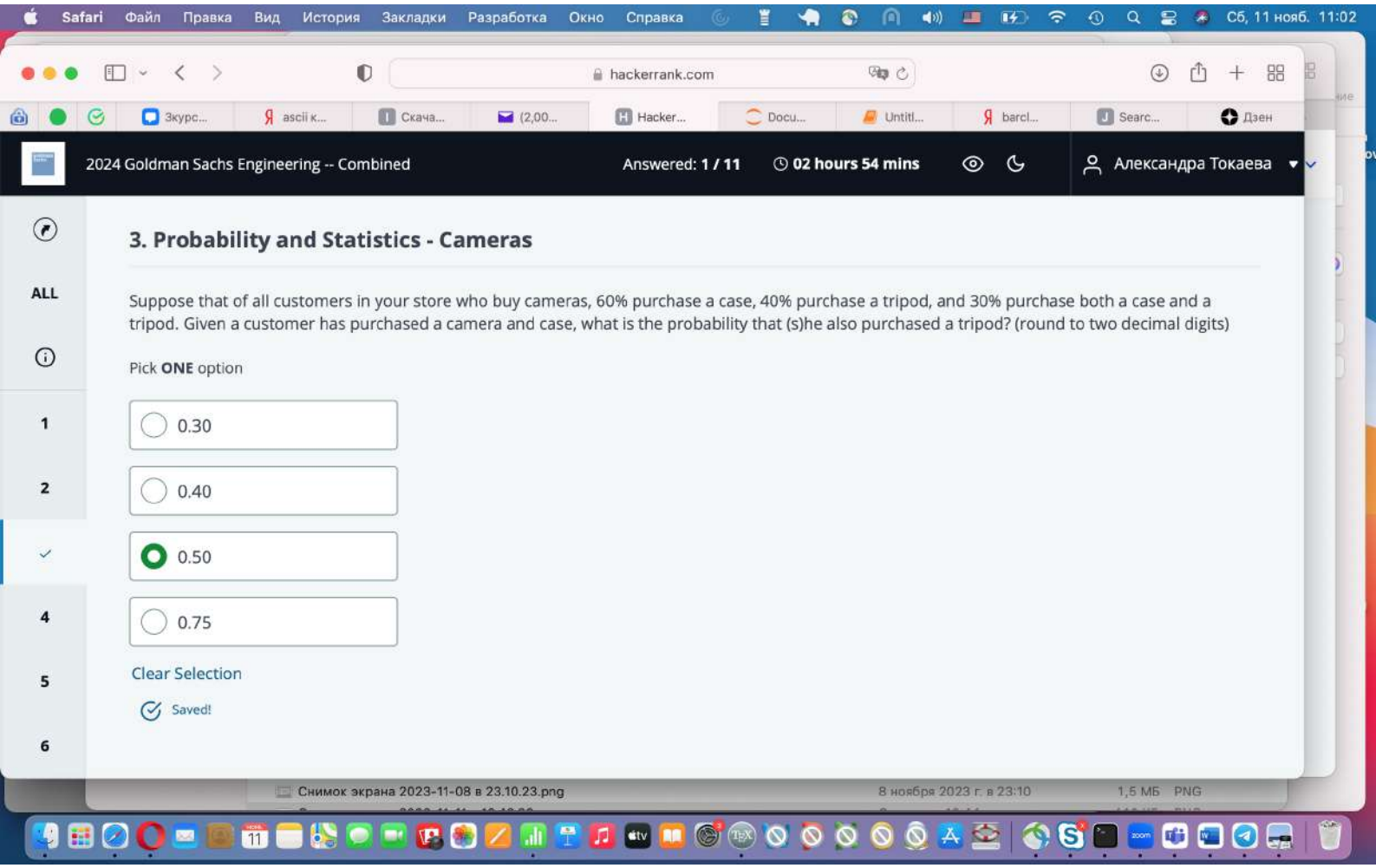

Safari Файл Правка Вид История Закладки Разработка Окно Справка
Сб, 11 нояб. 10:57
hackerrank.com
2024 Goldman Sachs Engineering -- Combined
Answered: 0 / 11
02 hours 59 mins
Александра Токаева
3. Probability and Statistics - Cameras
Suppose that of all customers in your store who buy cameras, 60% purchase a case, 40% purchase a tripod, and 30% purchase both a case and a tripod. Given a customer has purchased a camera and case, what is the probability that (s)he also purchased a tripod? (round to two decimal digits)
Pick ONE option
0.30
0.40
0.50
0.75
Clear Selection
ALL
1
2
3
4
5
6
Снимок экрана 2023-11-08 в 23.10.23.png
8 ноября 2023 г. в 23:10
1,5 МБ PNG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Сб, 11 нояб. 11:02
hackerrank.com
2024 Goldman Sachs Engineering -- Combined
Answered: 1 / 11
02 hours 54 mins
Александра Токаева
3. Probability and Statistics - Cameras
Suppose that of all customers in your store who buy cameras, 60% purchase a case, 40% purchase a tripod, and 30% purchase both a case and a tripod. Given a customer has purchased a camera and case, what is the probability that (s)he also purchased a tripod? (round to two decimal digits)
Pick ONE option
0.30
0.40
0.50
0.75
Clear Selection
Saved!
ALL
1
2
4
5
6
Снимок экрана 2023-11-08 в 23.10.23.png
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1,5 МБ
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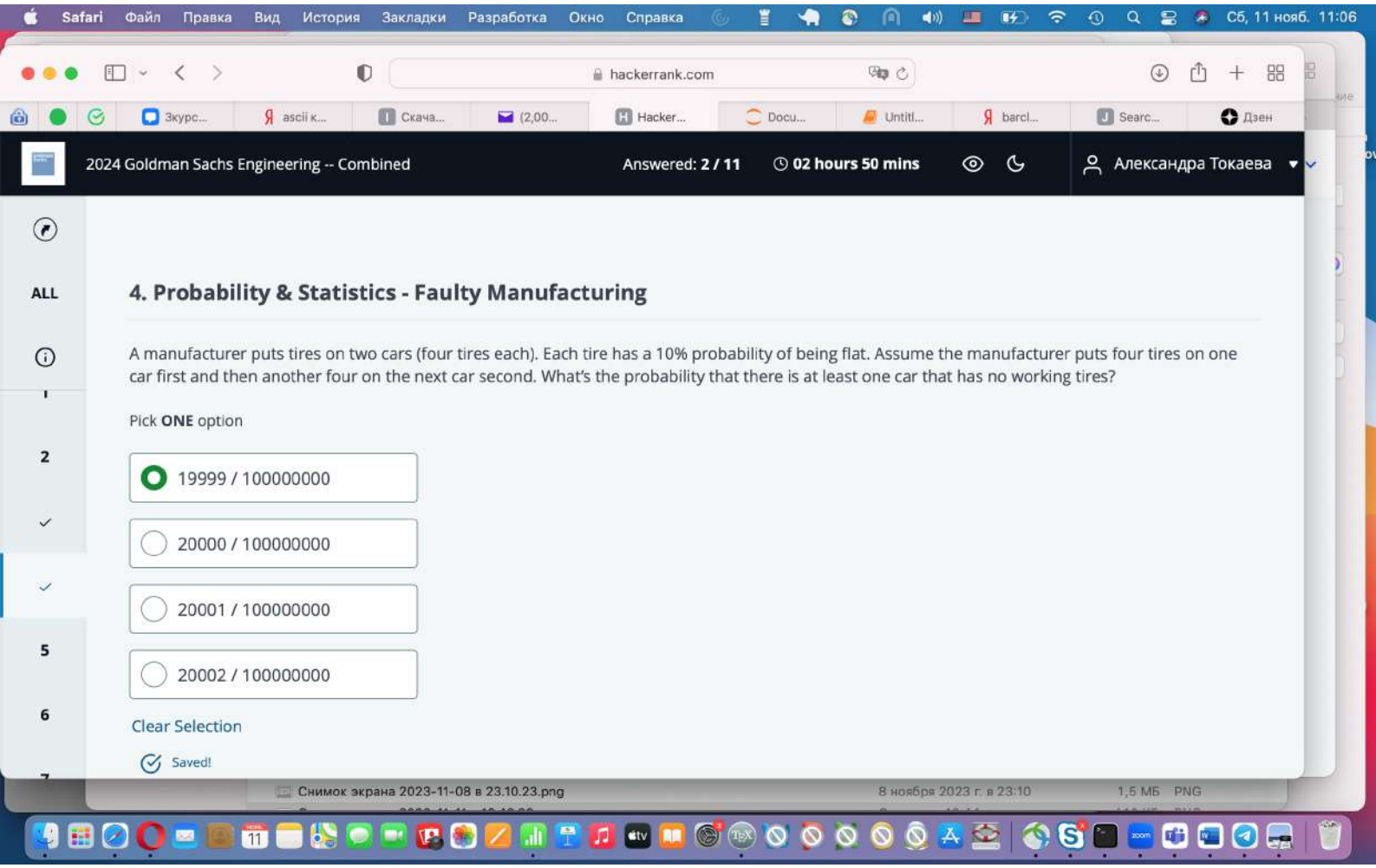
Safari Файл Правка Вид История Закладки Разработка Окно Справка
Сб, 11 нояб. 11:06
hackerrank.com
2024 Goldman Sachs Engineering -- Combined
Answered: 2 / 11
02 hours 50 mins
Александра Токаева
ALL
4. Probability & Statistics - Faulty Manufacturing
A manufacturer puts tires on two cars (four tires each). Each tire has a 10% probability of being flat. Assume the manufacturer puts four tires on one car first and then another four on the next car second. What's the probability that there is at least one car that has no working tires?
Pick ONE option
19999 / 100000000
20000 / 100000000
20001 / 100000000
20002 / 100000000
Clear Selection
Saved!
Снимок экрана 2023-11-08 в 23.10.23.png
8 ноября 2023 г. в 23:10
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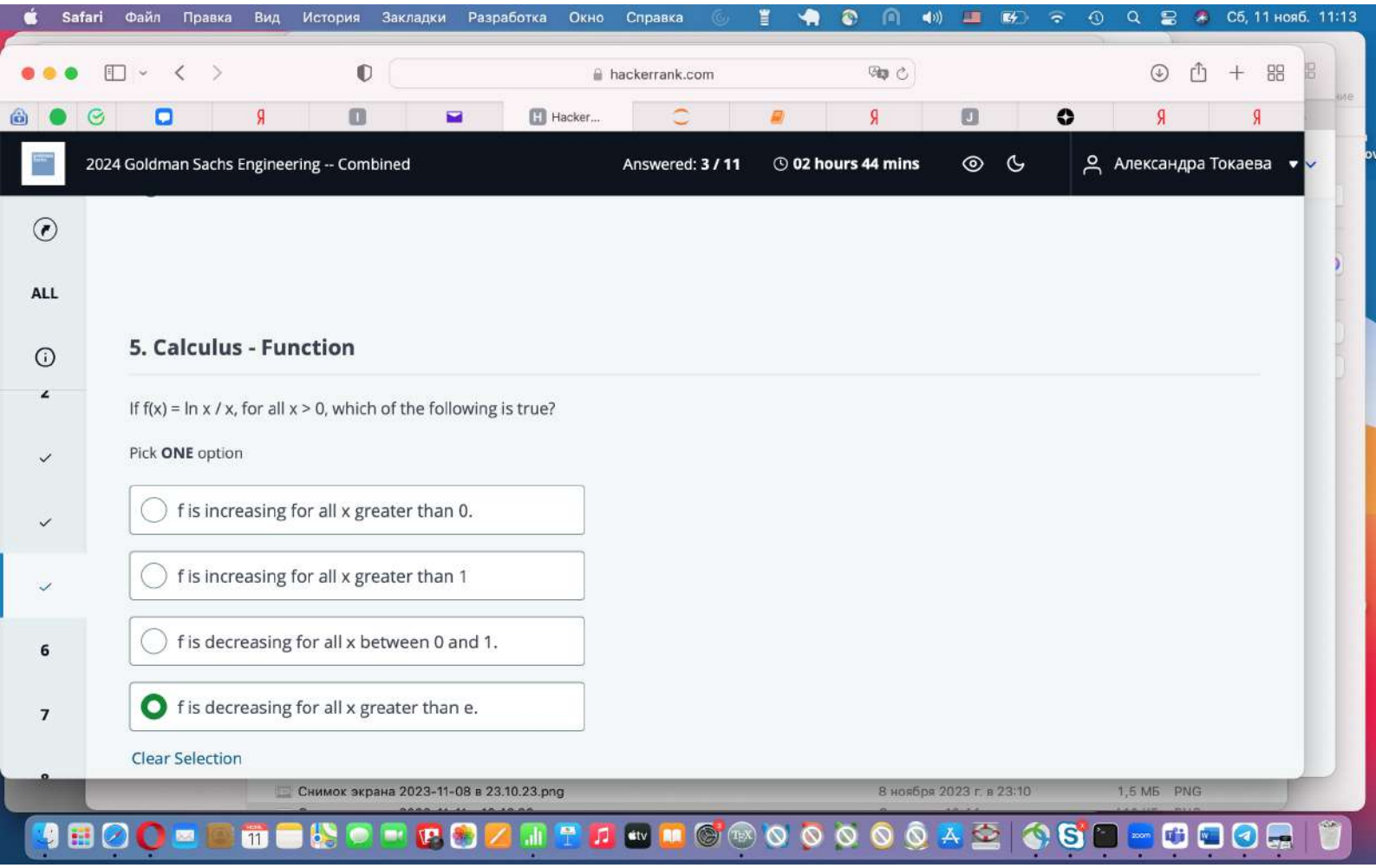
PNG


Safari Файл Правка Вид История Закладки Разработка Окно Справка
Сб, 11 нояб. 11:13
hackerrank.com
2024 Goldman Sachs Engineering -- Combined
Answered: 3 / 11
02 hours 44 mins
Александра Токаева
ALL
5. Calculus - Function
If f(x) = ln x / x, for all x > 0, which of the following is true?
Pick ONE option
f is increasing for all x greater than 0.
f is increasing for all x greater than 1
f is decreasing for all x between 0 and 1.
f is decreasing for all x greater than e.
Clear Selection
Снимок экрана 2023-11-08 в 23.10.23.png
8 ноября 2023 г. в 23:10
1,5 МБ PNG

2024 Goldman Sachs Engineering -- Combined | Answered: **4 / 11** | **02 hours 42 mins** | Александра Токаева

ALL

6. Calculus - Convergence

Which of the following series are convergent?

I. $1 + 1/2^2 + 1/3^2 + \ldots 1/n^2 + \ldots$

II. $1 + 1/2 + 1/3 + \ldots + 1/n + \ldots$

III. $1 - 1/3 + 1/3^2 + \ldots + (-1)^{n+1}/3^{n-1} + \ldots$

Pick **ONE** option

- ○ I only
- ○ III only
- ◉ I and III
- ○ II and III

7

8

The following basis is given for R^3:
$b_1 = (1, 0, 0)$,
$b_2 = (0, 1 / sqrt(2), 1 / sqrt(2))$,
$b_3 = (0, -1 / sqrt(2), 1 / sqrt(2))$.

Denote $B = \{ b_1, b_2, b_3 \}$ and consider the vector $v = (1, 1, 2)$. The third coordinate of $[v]_B$, which is representation of v in the basis specified by B, is given by:

Pick **ONE** option

- -sqrt(2)
- 1/2
- - 1 / sqrt(3)
- 1 / sqrt(2)

Clear Selection

2024 Goldman Sachs Engineering -- Combined | Answered: **6 / 11** | **02 hours 20 mins** | Александра Токаева

ALL

To understand if my restaurant is doing reasonably well, I decide to conduct a survey of 20 different restaurants in the city and see how mine compares. For each of these restaurants, total turnover in 2018 was estimated to vary between 0 to 6 million dollars. In particular, the turnover of each restaurant can be assumed to have the following distribution, independently of all the other restaurants.

$f(x) = cx \quad \text{if } 0 \le x < 2$
$= c(6-x)/2 \quad \text{if } 2 \le x < 6$

where x is the turnover in million dollars.

What is the expected number rounded to the nearest 0.01 of eateries with turnover in 2018 between 0 and 4 million dollars?

Pick **ONE** option

- 6.67
- 10
- 13.33
- 16.67

9

10

11

Clear Selection

2024 Goldman Sachs Engineering -- Combined | Answered: 7 / 11 | 02 hours 18 mins | Александра Токаева

ALL

10

11

9. Calculus - Integration 2

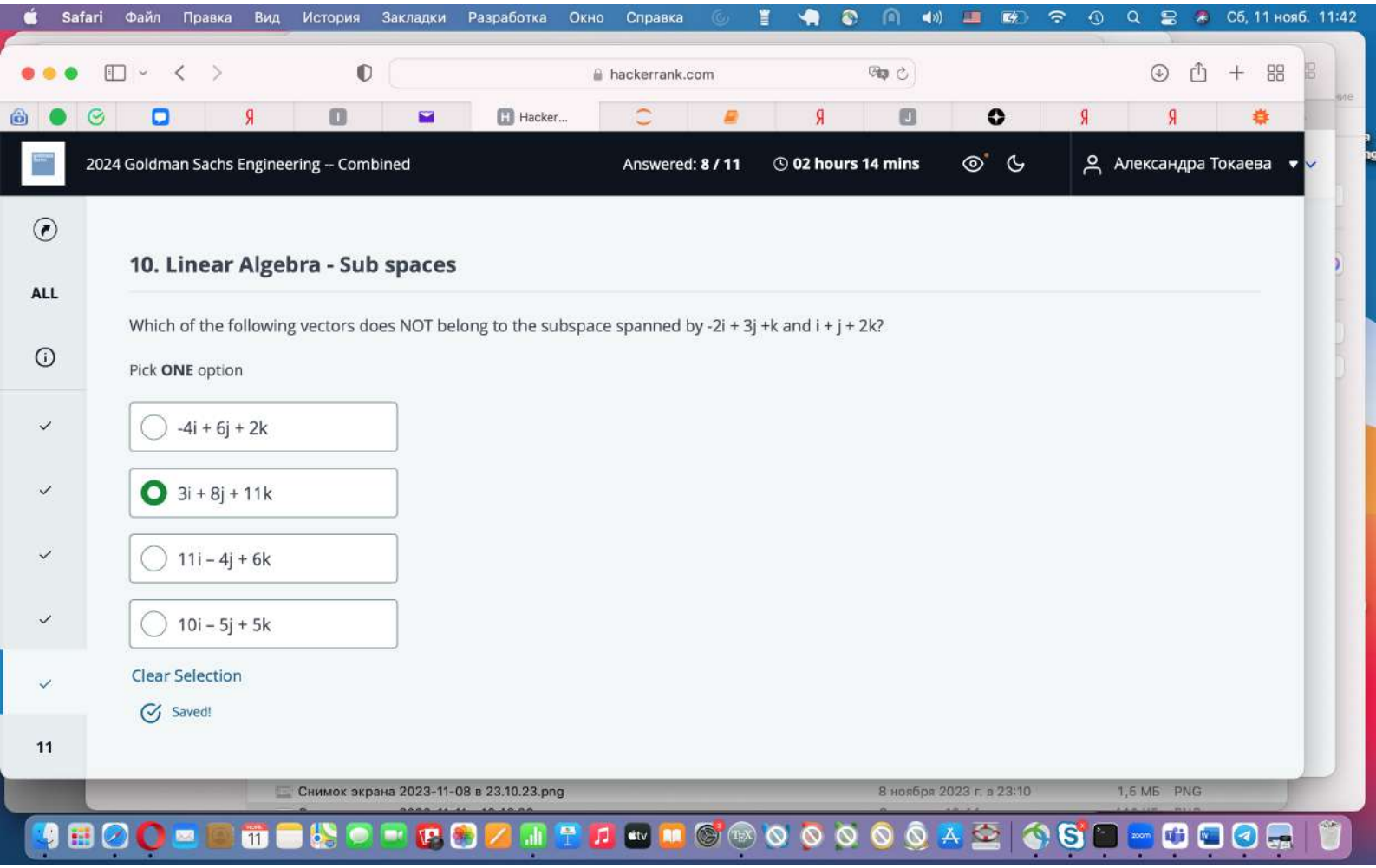
Compute $\int dx/((x-1)(x+2))$

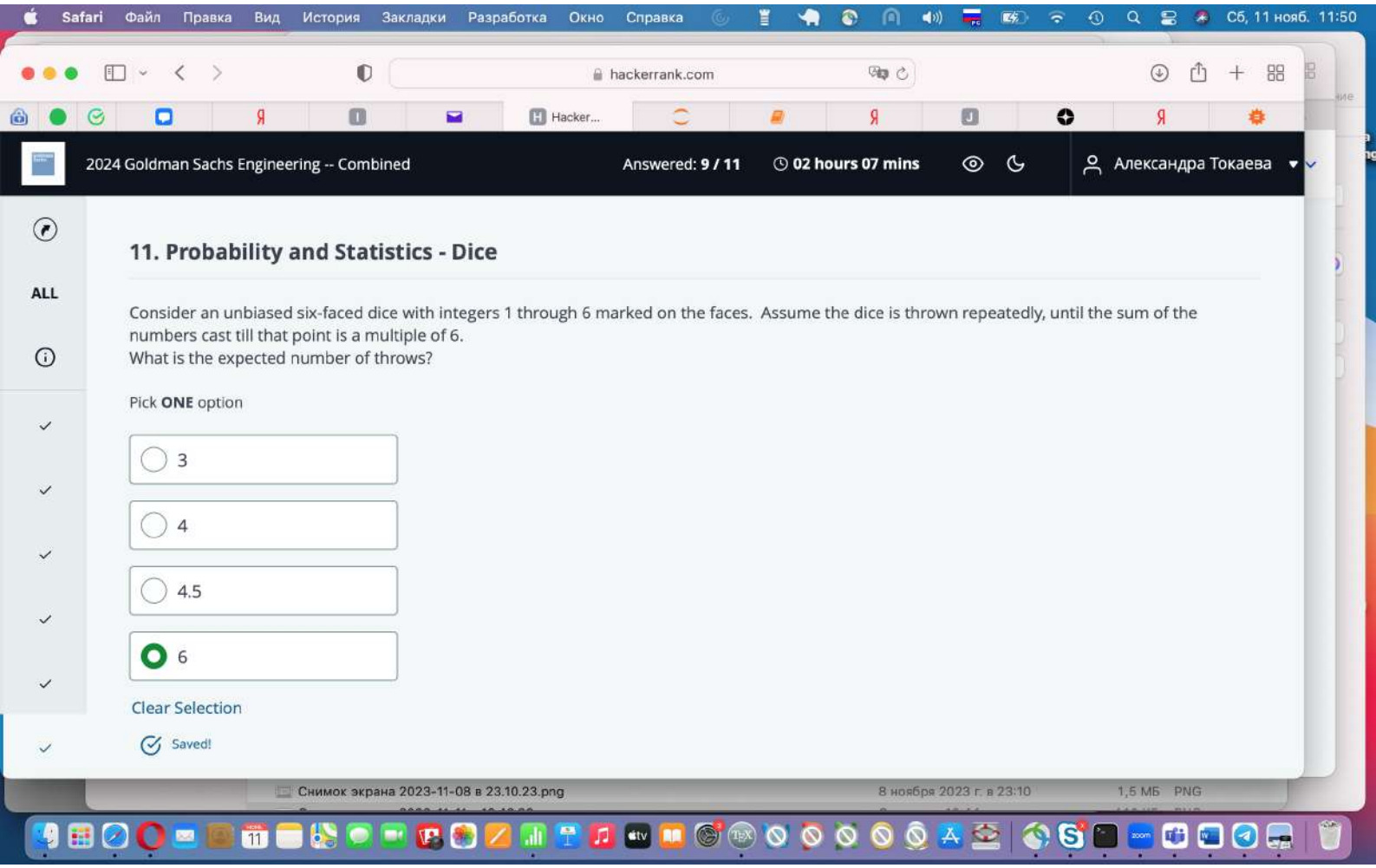
Pick **ONE** option

- (1/3) ln | (x-1) / (x+2) | + C
- (1/3) ln | (x+1) / (x-2) | + C
- (1/3) ln | (x-1) (x+2) | + C
- ln |x-1| + ln |x+2| + C

Clear Selection

Saved!


Safari Файл Правка Вид История Закладки Разработка Окно Справка
Сб, 11 нояб. 11:42
hackerrank.com
2024 Goldman Sachs Engineering -- Combined
Answered: 8 / 11
02 hours 14 mins
Александра Токаева
ALL
10. Linear Algebra - Sub spaces
Which of the following vectors does NOT belong to the subspace spanned by -2i + 3j +k and i + j + 2k?
Pick ONE option
-4i + 6j + 2k
3i + 8j + 11k
11i – 4j + 6k
10i – 5j + 5k
Clear Selection
Saved!
11
Снимок экрана 2023-11-08 в 23.10.23.png
8 ноября 2023 г. в 23:10
1,5 МБ
PNG


Safari Файл Правка Вид История Закладки Разработка Окно Справка
Сб, 11 нояб. 11:50
hackerrank.com
2024 Goldman Sachs Engineering -- Combined
Answered: 9 / 11
02 hours 07 mins
Александра Токаева
ALL
11. Probability and Statistics - Dice
Consider an unbiased six-faced dice with integers 1 through 6 marked on the faces. Assume the dice is thrown repeatedly, until the sum of the numbers cast till that point is a multiple of 6.
What is the expected number of throws?
Pick ONE option
3
4
4.5
6
Clear Selection
Saved!
Снимок экрана 2023-11-08 в 23.10.23.png
8 ноября 2023 г. в 23:10
1,5 МБ
PNG

1h 19m left

First, the triangle abc forms a valid non-degenerate triangle

- $|ab| = 7 - 2 = 5$. $|bc| = sqrt((7-5)^2 + (4-2)^2) = sqrt(2^2 + 2^2) = sqrt(8) = 2.82$. $|ac| = sqrt((5-2)^2 + (4-2)^2) = (3^2 + 2^2) = sqrt(13) = 3.6$.
- $|ab| + |bc| > |ac| \Rightarrow 5 + 2.82 > 3.6$
- $|bc| + |ac| > |ab| \Rightarrow 2.82 + 3.6 > 5$
- $|ab| + |ac| > |bc| \Rightarrow 5 + 3.6 > 2.82$

Second, the point p(5, 4) belong to the triangle abc and the point q(7, 4) does not as show in the graphic above. So, the answer is 1.

Function Description

Complete the function *pointsBelong* in the editor below.

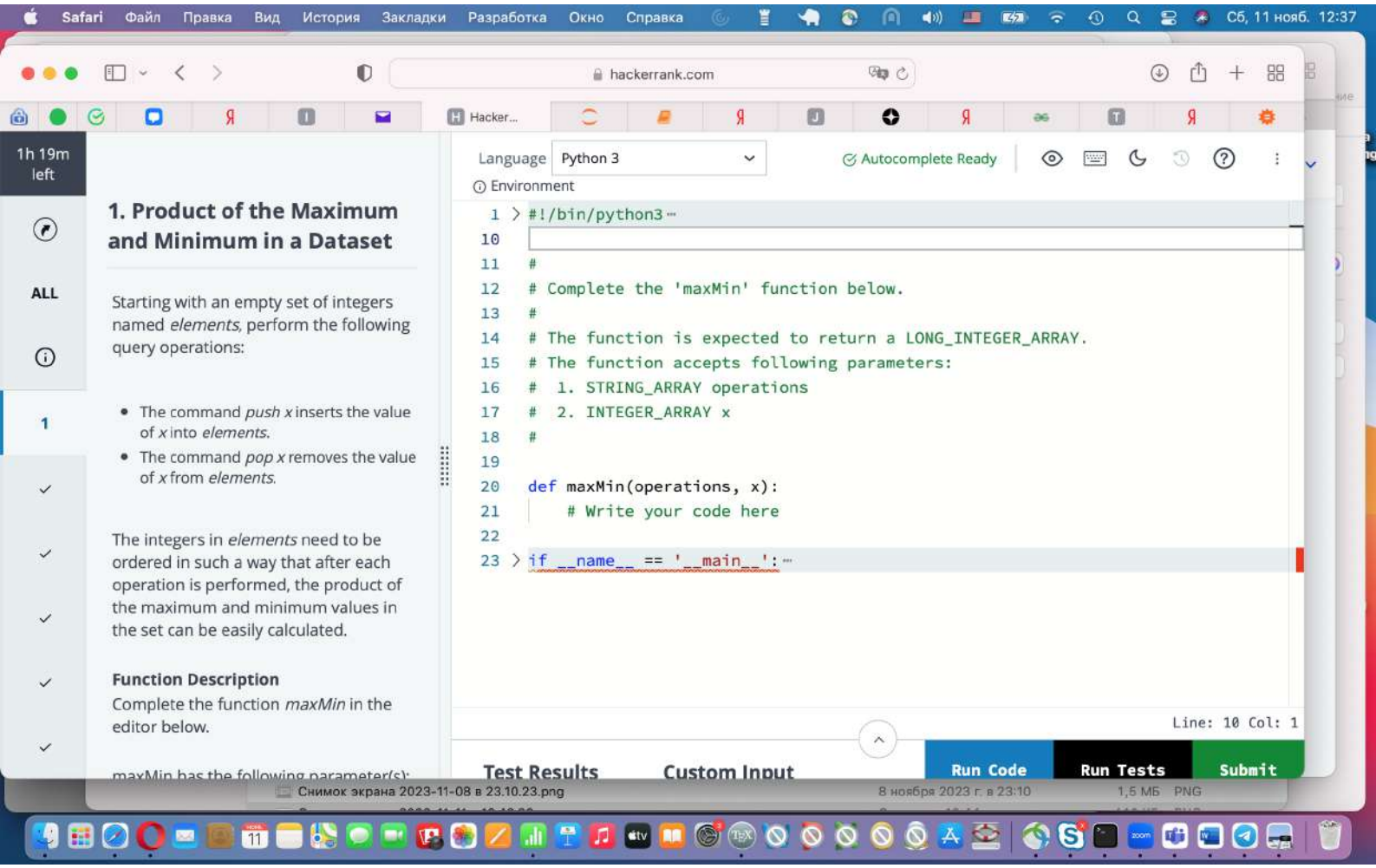
pointsBelong has the following parameter(s):

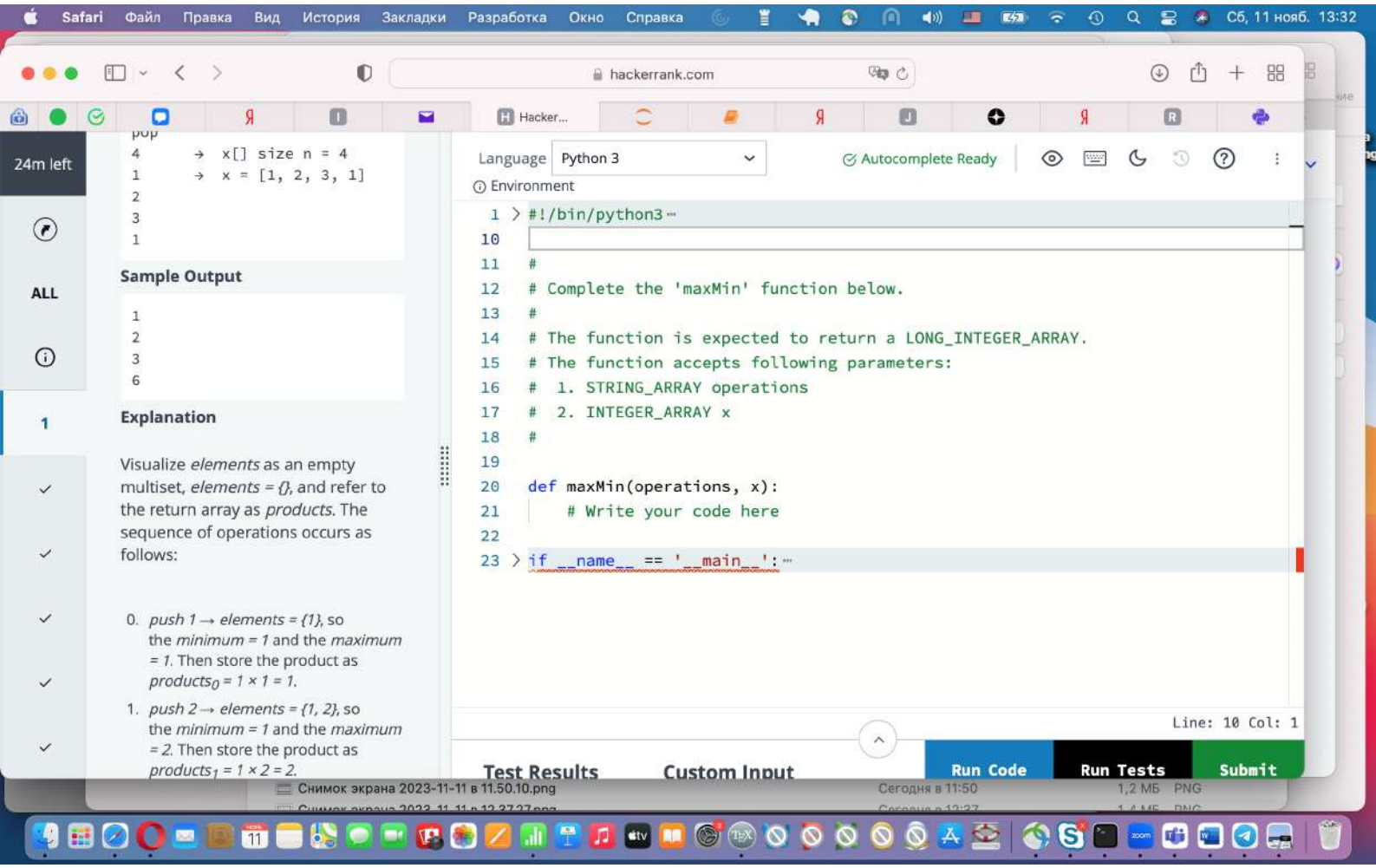
Language Python 3 | Autocomplete Ready | Environment

```
40
41  def area(x1, y1, x2, y2, x3, y3):
42      otv=(x1*(y2-y3)+x2*(y3-y1)+x3*(y1-y2))/2
43      return abs(otv)
44
45
46  def isInsideTriagle(x1, y1, x2, y2, x3, y3, xp, yp):
47      abc=area(x1,y1,x2,y2,x3,y3)
48      abp=area(x1,y1,x2,y2,xp,yp)
49      acp=area(x1,y1,x3,y3,xp,yp)
50      bcp=area(x2,y2,x3,y3,xp,yp)
51      eps=1e-6
52      if (abs(abc-abp-acp-bcp)<eps):
53          return True
54      return False
55
56  def pointsBelong(x1, y1, x2, y2, x3, y3, xp, yp, xq, yq):
57      # Write your code here
58      if (isDegenerate(x1, y1, x2, y2, x3, y3)):
59          return 0
```

Line: 44 Col: 1

Test Results | Custom Input | Run Code | Run Tests | Submit


Safari Файл Правка Вид История Закладки Разработка Окно Справка
Сб, 11 нояб. 12:37
hackerrank.com
1h 19m left
ALL
1. Product of the Maximum and Minimum in a Dataset
Starting with an empty set of integers named elements, perform the following query operations:
The command push x inserts the value of x into elements.
The command pop x removes the value of x from elements.
The integers in elements need to be ordered in such a way that after each operation is performed, the product of the maximum and minimum values in the set can be easily calculated.
Function Description
Complete the function maxMin in the editor below.
Language Python 3
Autocomplete Ready
Environment
#!/bin/python3
#
Complete the 'maxMin' function below.
#
The function is expected to return a LONG_INTEGER_ARRAY.
The function accepts following parameters:
1. STRING_ARRAY operations
2. INTEGER_ARRAY x
#
def maxMin(operations, x):
# Write your code here
if __name__ == '__main__':
Line: 10 Col: 1
Test Results
Custom Input
Run Code
Run Tests
Submit
Снимок экрана 2023-11-08 в 23.10.23.png
8 ноября 2023 г. в 23:10
1,5 МБ
PNG


Safari Файл Правка Вид История Закладки Разработка Окно Справка
Сб, 11 нояб. 13:32
hackerrank.com
24m left
ALL
1
pop
4 → x[] size n = 4
1 → x = [1, 2, 3, 1]
2
3
1
Sample Output
1
2
3
6
Explanation
Visualize elements as an empty multiset, elements = {}, and refer to the return array as products. The sequence of operations occurs as follows:
0. push 1 → elements = {1}, so the minimum = 1 and the maximum = 1. Then store the product as products0 = 1 × 1 = 1.
1. push 2 → elements = {1, 2}, so the minimum = 1 and the maximum = 2. Then store the product as products1 = 1 × 2 = 2.
Language Python 3
Autocomplete Ready
Environment
#!/bin/python3 ⋯
#
Complete the 'maxMin' function below.
#
The function is expected to return a LONG_INTEGER_ARRAY.
The function accepts following parameters:
1. STRING_ARRAY operations
2. INTEGER_ARRAY x
#
def maxMin(operations, x):
# Write your code here
if __name__ == '__main__': ⋯
Line: 10 Col: 1
Test Results
Custom Input
Run Code
Run Tests
Submit
Снимок экрана 2023-11-11 в 11.50.10.png
Сегодня в 11:50
1,2 МБ
PNG