**Questions:**

**8. [Statistics] Red Given King**

A card is selected at random from a standard 52 card deck. Assuming all cards are equally likely to be selected, what is the probability that a red card or a king was selected? (Note: a standard deck had 26 red cards and 4 kings)

Pick one option:

1. 7/13
2. 15/26
3. ½
4. 29/52

**1.[Statistics] Bag with blue and white balls**

From a bag with 5 blue and 3 white balls, in how many ways can you pick 2 blue balls and1 white ball at once?

Pick one option:

1. 15
2. 30
3. 81
4. 125

**2. [Statistics] Median of series**

What is the median of the following series: 2 2 2 4 4 5 5 6 8 11 12 16 18?

Pick one option:

1. 5.5
2. 5
3. 5.5
4. 6

**3.[Statistic] Dressing up**

If you have 3 hats, 4 shirts, 5 pants and 6 pairs of shoes. And assuming you need exactly one item of each category when you go out, how many ways can you dress yourself?

Pick one option:

1. 90
2. 720
3. 120
4. 360

**10. [Statistics] Alice’s bag with red + blue balls**

Alice had a bag with 3 red balls and 4 blue balls in it. She is going to randomly draw a ball from the bag 140 times, putting the ball back in the bag after each draw.

Complete the following statement with the best prediction: ‘Alice will draw a red ball…

Pick one option:

1. Exactly 60 times
2. Close to 60 times but probably not exactly 60 times
3. Exactly 80 times
4. Close to 80 times but probably not exactly 80 times

**4. [Statistics] Red or King**

A card is selected at random from a standard 52 card deck. Assuming all cards are equally likely to be selected, what is the probability that a red card or a king was selected. (Note: A standard deck had 26 red cards, and 4 kings)

Pick one option:

1. 7/13
2. 15/26
3. ½
4. **29/52**

**9. [Statistics] Drawing kings**

You pick two cards out of a standard pack of 52. The first card is a king. What is the probability of the second card also being a king? (Note: a standard pack has 4 kings)

Pick one option:

1. 1/17
2. 3/17
3. 1/51
4. 4/51

**Are you an expert on data structures?**

Which of the following data structures can erase from its beginning or its end in O(1) time?

Pick one option:

1. Vector
2. Deque
3. Stack
4. Segment tree

**7. [Statistics] How would the median height of women change?**

Using the table below, how would the median height of women change if the woman with height 58 was replaced by another woman with height 61?

Gender Height Weight

Male 69” 177

Male 68” 159

Male 67” 199

Male 71” 185

Male 70” 198

Female 58” 102

Female 65” 141

Female 63” 131

Female 64” 128

Female 66” 129

Pick one option:

1. Increase
2. Decrease
3. Stay the Same

**5 [Statistics] Mode of Gaussian**

You are given a bell-shaped Normal Distribution graph. Where can you find the mode? At the \_- of the graph.

Pick one option:

1. Right Tail
2. Left Tail
3. Peak
4. None of the Above

**6. [Statistics] Guessing Strategy**

In a multiple choice test, each question has four options, only one of which is correct. If you randomly guessed on three questions, then what is the probability you got at least one of them correct?

Pick one Option:

1. 27/64
2. 1/3
3. 37/64
4. 3/16

**2. FizzBuzz**

Given a number n, for each integer I in the range from 1 to n inclusive, print one value per line as follows:

If I is a multiple of both 3 and 5 print FizzBuzz

If I is a multiple of 3 (but not 5), print Fizz

If I is a multiple of 5 (but not 3), print Buzz

If I is not a multiple of 3 or 5, print the value of I

Function Description

Complete the function fizzBuss in the editor below.

fizzBuzz had the following parameters:

int n: upper limit of values to test (inclusive)

Returns: NONE

Prints:

The function must print the appropriate response for each value I in the set (1,2, n) in ascending order, each on a separate line.

Constraints

0<n<2x10 ^5

Input Format for Custom Testing

Sample Case 0

Sample Input

STDin Function

15 > n = 15

Sample Output

1

2

Fizz

4

Buzz

Fizz

7

8

Fizz

Buzz

11

Fizz

13

14

FizzBuzz

Explanation

The numbers 3,6,9 and 12 are multiples of 3 (but not 5) so print Fizz on those lines

The numbers 5 and 10 are multiples of 5(but not 3) so print Buzz on those lines

The number 15 is a multiple of both 3 and 5 so print FizzBuzz on that line.

None of the other values is a multiple of either 3 or 5, so print the value of I on those lines

**11. [Programming] Longest Streak**

Alice wants to track how regular she is exercising.

On a single line via Standard Input, you’re given her exercise record over several days. A Y indicates that she exercised on that day, and an N indicates that she did not. For example, an input line could look like:

Y Y N Y Y Y N N Y

A streak is defined as a set of consecutive days when Alice exercised i.e. a set of consecutive Ys. Your task is to find the length of the longest streak in the input, and print that number on a single line to Standard Output.

Example

Y Y N Y Y Y N N Y

Output

3

Count =0

Def count\_ex(x):

Global count

If x ==”Y”:

Count += 1

Else:

Count =0

Return count

**12. [Programming] Discounted Cost**

A boutique store is offering the following sale:

1. 25% off any item priced at $100 or above
2. 50% off any item priced at $200 or above
3. An additional $50 off at the register if the total after applying the previous discounts is $300 or above

On a single line of standard input, you’re given the list of full prices of items a customer has in her shopping cart. Your task is to calculate the final sale price and print it to Standard Output

Example

Input

160 40 20 300 50 80

Output

410

Explanation

The discounted prices are: 120 40 20 150 50 80, which add up to 460. Since that’s greater than 300, we subtract an additional 50 to get 410.