1. **Primes on Choice**

   Vikram and Rolex like **Prime Numbers**. Vikram asked Rolex to write a program that takes three numbers **N, R and C** and prints

   First R prime numbers that are <N (starting from N - 1), if C is equal to 0

   First R prime numbers that are >N (starting from N + 1), if C is equal to 1

   Despite being enthusiastic about primes, Rolex is struggling to construct code to perform the task given by Vikram.

   Help Rolex by writing the code for the above task.

   Note: See the examples and explanation for more clarity

   Input Format:
   The only line of input contains three space-separated integers N, R and C respectively.

   Output Format:
   Output R prime numbers as specified in the problem statement.

   Constraints:
   3 <= N <= 1000000
   1 <= R <= 1000
   0 <= C <= 1

   Sample I/O:

   Input 1:
   22 4 0
   Output 1:
   19 17 13 11

   Input 2:
   11 7 1
   Output 2:
   13 17 19 23 29 31 37

   Input 3:
   73 2 0
   Output 3:
   71 67

   Input 4:
   90 5 1
   Output 4:
   97 101 103 107 109

   Explanation:
   Input 1:
   Here C is equal to 0, which indicates Rolex has to print 4 (R value) primes that are <22 (Starting from 22 - 1, 21). Those are 19 17 13 and 11 respectively.

   Input 2:
   Here C is equal to 1, which indicates Rolex has to print 7 (R value) primes that are >11 (Starting from 11 + 1, 12). Those are 13 17 19 23 29 31 37 respectively.

2.

Rock and the orders

Rock wants to order food from a food delivery app. He wishes to order once today, and buy three items costing **A1, A2 and A3** rupees, respectively. He'll also order once tomorrow, when he'll buy three items costing **B1, B2 and B3** rupees, respectively. There is an additional delivery charge of rupees **D** for each order.

He notices that there is a coupon on sale, which costs rupees **C**. If he buys that coupon, the delivery charges on any day, on an order of rupees 150 or more shall be waived (that is, the D rupees will not be added, if the sum of the costs of the items is ≥ 150).

Note that Rock is ordering the three items together on each day, so the delivery charge is charged only once each day. Also, note that it's only needed to buy the coupon once to avail the delivery fee waiver on both days.

Should Rock buy the coupon? Note that Rock shall buy the coupon only if it costs him strictly less than what it costs him without the coupon, in total.

Input Format:
First line of input contains **D** and **C**.
Second line of input contains **A1, A2** and **A3** respectively.
Third line of input contains **B1, B2** and **B3** respectively.

Output Format:
YES, if Rock should buy the coupon,
NO, otherwise.

Sample I/O:

Input 1:
90 100
100 50 10
80 80 80

Output 1:
YES

Input 2:
30 30
100 100 100
10 20 30

Output 2:
NO

Input 3:
30 45
100 100 100
10 20 30

Output 3:
NO

Explanation:
Input 1:
On the first day, Rock plans on ordering three food items, costing a total of rupees (100+50+10)=160. On the second day, Rock plans on ordering three food items, costing a total of rupees (80+80+80)=240.

If Rock buys the coupon he shall save the delivery charge on both days, but the coupon shall cost him rupees 100 extra. In total, it shall cost him (160+240+100)=500.

Without the coupon, Rock will have to pay the delivery charges for both days, which shall cost him a total of rupees (160+240+90+90)=580.

Thus, it's better for Rock to buy the coupon.

Input 2:
On the first day, Rock plans on ordering three food items, costing a total of rupees (100+100+100)=300. On the second day, Rock plans on ordering three food items, costing a total of rupees (10+20+30)=60

If Rock buys the coupon he shall save the delivery charge on only the first day, but the coupon shall cost him rupees 30 extra. In total, it shall cost him (300+60+30(coupon cost)+ 30(delivery cost for second day))=420.

Without the coupon, Rock will have to pay the delivery charges for both days, which shall cost him a total of rupees (300+60+30(delivery cost for first day)+30 (delivery cost for second day))=420.

Since it shall cost him the same amount in both the cases, Rock shall not buy the coupon.