ALL

11

13

14

15

13. Question 13

What is the output printed by following program:

```
#include <iostream>
using namespace std;

class A {
    public:
    A() { cout << "Constructor for A Called" << endl; }
    ~A() { cout << "Destructor for A Called" << endl; }
};

class B {
    public:
    B() { cout << "Constructor for B Called" << endl; }
    virtual ~B() { cout << "Destructor for B Called" << endl; }
};

class C : public B {
    B a;
    public:
    C() { cout << "Constructor for C Called" << endl; }
    ~C() {
        cout << "Destructor for C Called" << endl;
    }
};

int main() {
    B* b = new C();
    delete b;
}
```

Pick **ONE** option

- Constructor for A Called
  Constructor for A Called
  Constructor for C Called
  Destructor for C Called
  Destructor for A Called
  Destructor for A Called

- Constructor for C Called
  Constructor for B Called
  Destructor for C Called
  Destructor for B Called

Constructor for B Called
Constructor for B Called
Constructor for C Called
Destructor for C Called
Destructor for B Called
Destructor for B Called

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ALL

10 11 12 13 14 15 16 17 18 19 20 21 22 23

- 18
- 22
- 10
- 20

Clear Selection

19. Question 19

How many arguments does the function calloc() take

Pick **ONE** option

- 1
- 2
- 3
- None of the above

Clear Selection

void *calloc(size_t num_elements, size_t element_size);

20. Question 20

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ALL

10 11 12 13 14 15 17 18 21 22

22. Question 22

Given an array of *n* integers, find the sum of the bitwise XOR sums of each of its subarrays.

The bitwise XOR sum of a subarray *[l, r]* is defined as *arr[l]* ⊕ *arr[l+1]* ⊕ . . . ⊕ *arr[r]*, where ⊕ denotes the bitwise XOR operation.

Example

Consider *n* = 3 and *arr* = [2, 3, 5]. The subarrays along with their costs are shown.

l	r	XOR sum
1	1	2
1	2	2 ⊕ 3 = 1
1	3	2 ⊕ 3 ⊕ 5 = 4
2	2	3
2	3	3 ⊕ 5 = 6
3	3	5

The sum of the xor sums of all subarrays is 2 + 1 + 4 + 3 + 6 + 5 = 21. Return 21.

Function Description

Complete the function *getXorSum* in the editor below.

getXorSum has the following parameter:

int arr[n]: an array of integers

Returns

long int: the sum of xor sums of all subarrays

Constraints

- $1 \le n \le 10^5$
- $0 \le arr[i] \le 10^5$

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Language C++14 | Environment | Autocomplete Ready

```
#include <bits/stdc++.h> ...


/*
 * Complete the 'getXorSum' function below.
 *
 * The function is expected to return a LONG_INTEGER.
 * The function accepts INTEGER_ARRAY arr as parameter.
 */
#define ll long long


long getXorSum(vector<int> arr) {

    ll sum=0;
    int n=arr.size();
    vector<int>a=arr;

    for(int i=0;i<15;i++){

        for(int j=0;j<n;j++){

            if(a[i] && (1<<i)){

            }
        }
    }
    // int a=37,b=45,c=57;
    // for(int i=1;i<1000;i++){
    //     if((a*i)%360 == (b*i)%360 == (c*i)%360)return i;
    // }
    int x=3;
    while(x-- >= 0)cout<<x<<endl;

    return 0;

}

int main() ...
```

Line: 20 Col: 10

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ALL
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2. Questi

A shop keeper bought a bag of apples at Rs. 10 per apple. He sold 70% of the apples at Rs. 2X per apple and the remaining apples at Rs. X per apple. He still managed an over all profit of 36%. What is the value of X.

Pick **ONE** option

- 8
- 9
- 10
- 10.5

Clear Selection

3. Question 3

A and B are two positive integers and A > B. Their sum equals five times their difference. A is greater than B. If their product is 4 times their quotient (A/B); then the sum of their squares is

Pick **ONE** option

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Game score
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10.5

Clear Selection

ALL

1 2 3 4 5 6 7 8 9 10

3. Question 3

A and B are two positive integers and A > B. Their sum equals five times their difference. A is greater than B. If their product is 4 times their quotient (A/B); then the sum of their squares is

Pick **ONE** option

- 13
- 20
- 29
- None of the above

Clear Selection

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Clear Selection

ALL

10 11 12 13 14 15 16 17 18 19 20 21 22

16. Question 16

What would this program output

```
int main()
{
    struct site
    {
        int number = 23;
    };

    struct site *ptr;
    printf("%d ", ++ptr->number);

    return 0;
}
```

Pick **ONE** option

- Compilation error
- Runtime error
- 23
- 24

Clear Selection

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ALL

```
    B() { cout << "Constructor for B Called" << endl; }
    virtual ~B() { cout << "Destructor for B Called" << endl; }
};

class C : public B {
    B a;
    public:
    C() { cout << "Constructor for C Called" << endl; }
    ~C() {
        cout << "Destructor for C Called" << endl;
    }
};

int main() {
    B* b = new C();
    delete b;
}
```

Pick **ONE** option

11

- Constructor for A Called
  Constructor for A Called
  Constructor for C Called
  Destructor for C Called
  Destructor for A Called
  Destructor for A Called

13

- Constructor for C Called
  Constructor for B Called
  Destructor for C Called
  Destructor for B Called

14

15

- Constructor for B Called
  Constructor for B Called
  Constructor for C Called
  Destructor for C Called
  Destructor for B Called
  Destructor for B Called

- Constructor for B Called
  Constructor for C Called
  Destructor for C Called
  Destructor for B Called

Clear Selection

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None of the above

Clear Selection

ALL

4 5 6 7 8 9 10 11 12 13 14

9. Question 9

The sum of two numbers is 14. The sum of the cubes of those numbers is 1736. What is the absolute value of the difference between the two numbers?

Pick **ONE** option

- 6
- 8
- 10
- None of the above

Clear Selection

Continue

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ALL

8 9 10 11 12 13 14 15 16 17 18

13. Question 13

What is the output printed by following program:

```
#include <iostream>
using namespace std;

class A {
    public:
    A() { cout << "Constructor for A Called" << endl; }
    ~A() { cout << "Destructor for A Called" << endl; }
};

class B {
    public:
    B() { cout << "Constructor for B Called" << endl; }
    virtual ~B() { cout << "Destructor for B Called" << endl; }
};

class C : public B {
    B a;
    public:
    C() { cout << "Constructor for C Called" << endl; }
    ~C() {
        cout << "Destructor for C Called" << endl;
    }
};

int main() {
    B* b = new C();
    delete b;
}
```

Pick **ONE** option

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hackerrank.com/test/540p18c8d5f/questions/3rsg79nmpdq
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```
int main() {
    B* b = new C();
    delete b;
}
```

Pick **ONE** option

- Constructor for A Called
  Constructor for A Called
  Constructor for C Called
  Destructor for C Called
  Destructor for A Called
  Destructor for A Called

- Constructor for C Called
  Constructor for B Called
  Destructor for C Called
  Destructor for B Called

- Constructor for B Called
  Constructor for B Called
  Constructor for C Called
  Destructor for C Called
  Destructor for B Called
  Destructor for B Called

- Constructor for B Called
  Constructor for C Called
  Destructor for C Called
  Destructor for B Called

Clear Selection

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22. Question 22

Given an array of *n* integers, find the sum of the bitwise XOR sums of each of its subarrays.

The bitwise XOR sum of a subarray *[l, r]* is defined as *arr[l]* ⊕ *arr[l+1]* ⊕ . . . ⊕ *arr[r]*, where ⊕ denotes the bitwise XOR operation.

Example

Consider *n* = 3 and *arr* = [2, 3, 5]. The subarrays along with their costs are shown.

l	r	XOR sum
1	1	2
1	2	2 ⊕ 3 = 1
1	3	2 ⊕ 3 ⊕ 5 = 4
2	2	3
2	3	3 ⊕ 5 = 6
3	3	5

The sum of the xor sums of all subarrays is 2 + 1 + 4 + 3 + 6 + 5 = 21. Return 21.

Function Description

Complete the function *getXorSum* in the editor below.

getXorSum has the following parameter:

int arr[n]: an array of integers

Returns

long int: the sum of xor sums of all subarrays

Constraints

- $1 \le n \le 10^5$
- $0 \le arr[i] \le 10^5$

Language C++14 | Environment | Autocomplete Ready

```
1  > #include <bits/stdc++.h> ...
9    /*
10    * Complete the 'getXorSum' function below.
11    *
12    * The function is expected to return a LONG_INTEGER.
13    * The function accepts INTEGER_ARRAY arr as parameter.
14    */
15
16   long getXorSum(vector<int> arr) {
17
18
19
20
21
22
23
24
25   }
26 > int main() ...
```

Line: 24 Col: 5

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10 11 12 13 14 15 17 18 21 22

22. Question 22

Given an array of *n* integers, find the sum of the bitwise XOR sums of each of its subarrays.

The bitwise XOR sum of a subarray *[l, r]* is defined as *arr[l]* ⊕ *arr[l+1]* ⊕ . . . ⊕ *arr[r]*, where ⊕ denotes the bitwise XOR operation.

Example

Consider *n* = 3 and *arr* = [2, 3, 5]. The subarrays along with their costs are shown.

l	r	XOR sum
1	1	2
1	2	2 ⊕ 3 = 1
1	3	2 ⊕ 3 ⊕ 5 = 4
2	2	3
2	3	3 ⊕ 5 = 6
3	3	5

The sum of the xor sums of all subarrays is 2 + 1 + 4 + 3 + 6 + 5 = 21. Return 21.

Function Description

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getXorSum has the following parameter:

int arr[n]: an array of integers

Returns

long int: the sum of xor sums of all subarrays

Constraints

- $1 \le n \le 10^5$
- $0 \le arr[i] \le 10^5$

Language C++14 | Environment | Autocomplete Ready

```
#include <bits/stdc++.h> ...


/*
 * Complete the 'getXorSum' function below.
 *
 * The function is expected to return a LONG_INTEGER.
 * The function accepts INTEGER_ARRAY arr as parameter.
 */
#define ll long long


[redacted]

long getXorSum(vector<int> arr) {

    ll sum=0;
    int n=arr.size();
    vector<int>a=arr;

    for(int i=0;i<15;i++){

        for(int j=0;j<n;j++){

            if(a[i] && (1<<i)){

            }
        }
    }
    // int a=37,b=45,c=57;
    // for(int i=1;i<1000;i++){
    //     if((a*i)%360 == (b*i)%360 == (c*i)%360)return i;
    // }
    int x=3;
    while(x-- >= 0)cout<<x<<endl;

    return 0;

}

int main() ...
```

FUCKIN' BITCH

Line: 20 Col: 31

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- Runtime error
- 23
- 24

Clear Selection

15. Question 15

After performing 10 wait operations and 7 signal operations on a counting semaphore its final value was 6. What was the initial value of the semaphore

Pick **ONE** option

- 3
- 9
- 4
- 11

Clear Selection

16. Question 16

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Destructor for B Called

Clear Selection

To exit full screen, press and hold Esc

ALL

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14. Question 14

What would this program output

```
int main()
{
    struct site
    {
        int number;
    };

    struct site *ptr, x;
    x.number = 23;
    ptr = (struct site *)&x.number;
    printf("%d ", (ptr->number)++);

    return 0;
}
```

Pick **ONE** option

- Compilation error
- Runtime error
- 23
- 24

Clear Selection

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ALL

10 11 12 13 14 15 16 17 18 19 20 21 22 23

- 3 2 1 0 -1
- 3 2 1 0
- 2 1 0
- 2 1 0 -1

Clear Selection

21. Question 21

Where are the arguments passed to a function stored?

Pick **ONE** option

- Stack
- Registers
- Stack and Registers
- Depends on the calling convention

Clear Selection

Continue

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- Compilation error
- Runtime error
- 23
- 24

Clear Selection

17. Question 17

Which one of the following data structures would you consider using to implement a binary tree

Pick **ONE** option

- Singly linked list
- Doubly linked list
- AVL tree
- None of the above

Clear Selection

18. Question 18

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29

None of the above

Clear Selection

4. Question 4

In how many different ways can the letters of the word "COMMUNICATION" be arranged linearly

Pick **ONE** option

- 5940
- 11880
- 831600
- None of the above

Clear Selection

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22. Question 22

Given an array of *n* integers, find the sum of the bitwise XOR sums of each of its subarrays.

The bitwise XOR sum of a subarray *[l, r]* is defined as *arr[l]* ⊕ *arr[l+1]* ⊕ . . . ⊕ *arr[r]*, where ⊕ denotes the bitwise XOR operation.

Example

Consider *n* = 3 and *arr* = [2, 3, 5]. The subarrays along with their costs are shown.

l	r	XOR sum
1	1	2
1	2	2 ⊕ 3 = 1
1	3	2 ⊕ 3 ⊕ 5 = 4
2	2	3
2	3	3 ⊕ 5 = 6
3	3	5

The sum of the xor sums of all subarrays is 2 + 1 + 4 + 3 + 6 + 5 = 21. Return 21.

Function Description

Complete the function *getXorSum* in the editor below.

getXorSum has the following parameter:

int arr[n]: an array of integers

Returns

long int: the sum of xor sums of all subarrays

Constraints

- $1 \le n \le 10^5$
- $0 \le arr[i] \le 10^5$

▸ **Input Format For Custom Testing**

▾ **Sample Case 0**

Language C++14 | Environment | Autocomplete Ready

```
#include <bits/stdc++.h> ···

/*
 * Complete the 'getXorSum' function below.
 *
 * The function is expected to return a LONG_INTEGER.
 * The function accepts INTEGER_ARRAY arr as parameter.
 */

long getXorSum(vector<int> arr) {
[redacted]
}

int main() ···
```

Line: 18 Col: 80

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- None of the above

Clear Selection

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6. Question 6

3 men can dig a trench 3 feet deep working for 3 hours a day in 3 days. How deep a trench can 6 men dig working for 6 hours a day for 6 days

Pick **ONE** option

- 6
- 24
- 48
- 81

Clear Selection

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2 3 4 5 6 7 8 9 10 11 12

7. Question 7

ABC is a right angled triangle, right angled at A. The hypotenuse is 26 and the area is 120 square units. What is its perimeter?

Pick **ONE** option

- 48
- 52
- 60
- None of the above

Clear Selection

8. Question 8

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```
    Derived2* derived2 = dynamic_cast<Derived2*>(base);
    Derived3* derived3 = dynamic_cast<Derived3*>(base);
    if (base)
    {
        base->Foo();
    }
    if (derived1) {
        derived1->Foo();
    }
    if (derived2) {
        derived2->Foo();
    }
    if (derived3) {
        derived3->Foo();
    }
}
int main()
{
    Derived3 d;
    callFoo(static_cast<Base*>(&d));
    return 0;
}
```

Pick **ONE** option

- Derived3::Foo() Derived3::Foo() Derived3::Foo() Derived3::Foo()
- Base:Foo() Derived1::Foo() Derived2::Foo() Derived3::Foo()
- Derived3::Foo() Derived3::Foo() Derived3::Foo()
- Base:Foo() Derived3::Foo()

Clear Selection

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None of the above

Clear Selection

20. Question 20

What would the output of this program be?

```
int main()
{
    int x = 3;
    while (x-- >= 0)
    {
        printf("%d  ", x);
    }
    return 0;
}
```

Pick **ONE** option

- 3 2 1 0 -1
- 3 2 1 0
- 2 1 0
- 2 1 0 -1

Clear Selection

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5 6 7 8 9 10 11 12 13 14 15

10. Question 10

What is the output printed by following program:

```
#include <iostream>
using namespace std;
int main() {
    int num = 0;
    const int* cptr = &num;

    *(const_cast<int*>(cptr)) = 2;

    cout << num << endl;
}
```

Pick **ONE** option

- 0
- 2
- Cannot say - Undefined behavior
- Compilation Error

Clear Selection

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Game score
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Clear Selection

ALL

1 2 3 4 5 6 7 8 9 10

5. Question 5

A person walks from a point A to a point B. He covers the first quarter of the distance in a constant speed, and takes the same amount of time to cover the rest of the distance at a different constant speed. If he started from A at 6 kmph at what was the average speed in going from A to B.

Pick **ONE** option

- 12 kmph
- 15 kmph
- 9 kmph
- None of the above

Clear Selection

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- Doubly linked list
- AVL tree
- None of the above

Clear Selection

18. Question 18

A counting semaphore has a value of 7. After 20 wait operations and some signal operations were performed, the value of the sempahore becomes 5. How many signal operations were performed

Pick **ONE** option

- 18
- 22
- 10
- 20

Clear Selection

19. Question 19

How many arguments does the function calloc() take

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10 11 12 13 14 15 ✓ 17 18 ✓ ✓ 21 22 ✓

22. Question 22

Given an array of *n* integers, find the sum of the bitwise XOR sums of each of its subarrays.

The bitwise XOR sum of a subarray *[l, r]* is defined as *arr[l]* ⊕ *arr[l+1]* ⊕ . . . ⊕ *arr[r]*, where ⊕ denotes the bitwise XOR operation.

Example

Consider *n* = 3 and *arr* = [2, 3, 5]. The subarrays along with their costs are shown.

l	r	XOR sum
1	1	2
1	2	2 ⊕ 3 = 1
1	3	2 ⊕ 3 ⊕ 5 = 4
2	2	3
2	3	3 ⊕ 5 = 6
3	3	5

The sum of the xor sums of all subarrays is 2 + 1 + 4 + 3 + 6 + 5 = 21. Return 21.

Function Description

Complete the function *getXorSum* in the editor below.

getXorSum has the following parameter:

int arr[n]: an array of integers

Returns

long int: the sum of xor sums of all subarrays

Constraints

- $1 \le n \le 10^5$
- $0 \le arr[i] \le 10^5$

Language C++14 | Environment | Autocomplete Ready

```cpp
#include <bits/stdc++.h>...


/*
 * Complete the 'getXorSum' function below.
 *
 * The function is expected to return a LONG_INTEGER.
 * The function accepts INTEGER_ARRAY arr as parameter.
 */
#define ll long long


[redacted]


long getXorSum(vector<int> arr) {

    ll sum=0;
    int n=arr.size();
    vector<int>a=arr;

    for(int i=0;i<15;i++){

        for(int j=0;j<n;j++){

            if(a[i] && (1<<i)){

            }
        }
    }
    // int a=37,b=45,c=57;
    // for(int i=1;i<1000;i++){
    //     if((a*i)%360 == (b*i)%360 == (c*i)%360)return i;
    // }
    int x=3;
    while(x-- >= 0)cout<<x<<endl;

    return 0;

}

int main()...
```

Line: 23 Col: 1

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

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ALL

6 7 8 9 10 11 12 13 14 15 16

11. Question 11

What will be the output of the program:

```
class Base
{
public:
    virtual void Foo() { printf("Base::Foo()\n"); }
};
class Derived1 : public Base
{
public:
    void Foo() override { printf("Derived1::Foo()\n"); }
};
class Derived2 : public Base
{
public:
    void Foo() override { printf("Derived2::Foo()\n"); }
};
class Derived3 : public Derived1
{
public:
    void Foo() { printf("Derived3::Foo()\n"); }
};
void callFoo(Base* base)
{
    Derived1* derived1 = dynamic_cast<Derived1*>(base);
    Derived2* derived2 = dynamic_cast<Derived2*>(base);
    Derived3* derived3 = dynamic_cast<Derived3*>(base);
    if (base)
    {
        base->Foo();
    }
    if (derived1) {
        derived1->Foo();
    }
```

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12. Question 12

What would the output of this program be?

```
int main()
{

    char *mystring = "hello world";
    int myint[] = {0, 1, 2, 3, 4, 5, 6, 7};
    char *c;
    int *x = &myint[0];
    x += 3;
    c = &mystring[0];

    printf("%c ", c[*x]);

}
```

Pick **ONE** option

- Compilation error
- Run time error
- l
- Cannot be predicted

Clear Selection

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abhishek.anand.ece21@iitbhu.ac.in

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22. Question 22

Given an array of *n* integers, find the sum of the bitwise XOR sums of each of its subarrays.

The bitwise XOR sum of a subarray *[l, r]* is defined as $arr[l] \oplus arr[l+1] \oplus \ldots \oplus arr[r]$, where $\oplus$ denotes the bitwise XOR operation.

Example

Consider $n = 3$ and $arr = [2, 3, 5]$. The subarrays along with their costs are shown.

l	r	XOR sum
1	1	2
1	2	$2 \oplus 3 = 1$
1	3	$2 \oplus 3 \oplus 5 = 4$
2	2	3
2	3	$3 \oplus 5 = 6$
3	3	5

The sum of the xor sums of all subarrays is $2 + 1 + 4 + 3 + 6 + 5 = 21$. Return 21.

Function Description

Complete the function *getXorSum* in the editor below.

getXorSum has the following parameter:

int arr[n]: an array of integers

Returns

long int: the sum of xor sums of all subarrays

Constraints

- $1 \le n \le 10^5$
- $0 \le arr[i] \le 10^5$

▸ **Input Format For Custom Testing**

▾ **Sample Case 0**

Language C++14 | Environment | Autocomplete Ready

```
#include <bits/stdc++.h>

/*
 * Complete the 'getXorSum' function below.
 *
 * The function is expected to return a LONG_INTEGER.
 * The function accepts INTEGER_ARRAY arr as parameter.
 */

long getXorSum(vector<int> arr) {

}

int main()
```

Line: 18 Col: 5

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

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1 2 3 4 5 6 7 8 9 10

1. Question 1

A box has 10 toffees each of orange, pineapple and mango flavors. Sita randomly picks up a toffee and eats it. Then Gita randomly picks another toffee and eats it. Finally, Rita randomly picks up a toffee. What is the probability that all of them picked up the same flavoured toffee?

Pick **ONE** option

- 18/203
- 24/203
- 28/203
- 36/203

Clear Selection

2. Question 2

A shop keeper bought a bag of apples at Rs. 10 per apple. He sold 70% of the apples at Rs. 2X per apple and the remaining apples at Rs. X per apple. He still managed an over all profit of 36%. What is the value of X.

Pick **ONE** option

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None of the above

Clear Selection

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3 4 5 6 7 8 9 10 11 12 13

8. Question 8

Three machines move along a circular track of 360 meters at speeds of 37 meters per minute, 45 meters per minute and 57 meters per minute. They start together and from the same point. How many minutes would elapse before they all come together again.

Pick **ONE** option

- 40
- 60
- 90
- None of the above

Clear Selection

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1 2 3 4 5 6 7 8 9 10

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- 18/203
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Clear Selection

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