

14 May 2023

// WAP that finds the pair of integers in an array with minimum XOR value.

```
1 // WAP that finds the pair of integers in an array with minimum XOR value.
2 import java.util.Scanner;
3 public class Main {
4     public static int findMinimumXOR(int [] arr)
5     {
6         int min = Integer.MAX_VALUE;
7         for(int i=0; i<arr.length-1; i++)
8         {
9             for(int j=i+1; j<arr.length; j++)
10            {
11                int xor = arr[i] ^ arr[j];
12                if(xor<min)
13                    min = xor;
14                System.out.println(arr[i]+" "+arr[j]);
15            }
16        }
17        return min;
18    }
19    public static void main(String[] args)
20    {
21        int [] arr = {3,6,9,2,7,1};
22        int min = findMinimumXOR(arr);
23    }
24 }
25
26
```

arr

0	1	2	3	4	5
3	6	9	2	7	1

min = MAX_VALUE
①

i=0
j=1,2,3,4,5
3^6
3^9
3^2
3^7
3^1
6^9
6^2
6^7
6^1
9^2
9^7
9^1
2^7
2^1
7^1

3^6, 3^9, 3^2, 3^7, 3^1
6^9, 6^2, 6^7, 6^1
9^2, 9^7, 9^1
2^7, 2^1
7^1

Run | Debug

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// WAP that finds the pair of integers in an array with minimum XOR value.

Pair	XOR
3, 6	5
3, 9	10
3, 2	1
3, 7	4
3, 1	2
6, 9	15
6, 2	4
6, 7	1
6, 1	7
9, 2	11
9, 7	14
9, 1	8
2, 7	5
2, 1	3
7, 1	6

Min = 1

3 = 0011
6 = 10110
0101 = 5

// WAP that finds the pair of integers in an array with minimum XOR value.

```
import java.util.Scanner;
```

```
public class Main {
```

```
    public static int findMinimumXOR(int [] arr)
```

```
    {
```

```
        int min = Integer.MAX_VALUE;
```

```
        for(int i=0; i<arr.length-1; i++)
```

```
        {
```

```
            for(int j=i+1; j<arr.length; j++)
```

```
            {
```

```
                int xor = arr[i] ^ arr[j];
```

```
                if(xor<min)
```

```
                    min = xor;
```

```
                System.out.println(arr[i]+" "+arr[j]);
```

```
            }
```

```
        }
```

```
        return min;
```

```
    }
```

```
    public static void main(String[] args)
```

```
    {
```

```
        int [] arr = {3,6,9,2,7,1};
```

```
        int min = findMinimumXOR(arr);
```

```
        System.out.printf("The minimum XOR value in the array is %d",  
min);
```

```
        // System.out.print("The minimum XOR value in the array is " +  
min);
```

```
    }
```

```
}
```

