



Coding Challenge #11 (Question)

A user is asked to enter a list of numbers in an array with size of his own choice . Then he wants the programmer to give out the elements from the list which are factors of a number X, given as input from the user. Develop an application program meeting the required needs.

INPUT FORMAT:

1. First the user gives an integer input for specifying the size of his/her list (array n)
2. Second line of input takes n elements from the user.
3. Third line of input takes an integer(x) from the user for which the programmer needs to take out the factors.

OUTPUT FORMAT:

An array of integers which are factors of x.

CONSTRAINTS:

n, x should be a non-negative integers.

SAMPLE INPUT 0:

```
5
2 14 8 16 36
24
```

SAMPLE OUTPUT 0:

```
2 8
```

EXPLANATION:

2,8 from the given list are factors of 24.



Coding Challenge #11 (Question contd.)

SAMPLE INPUT 1:

10

1 2 3 4 5 6 7 8 9 10

15

SAMPLE OUTPUT:

1 3 5

EXPLANATION:

1,3,5 from the given list are factors of 15.



Coding Challenge #11 (C Solution)

```
#include <stdio.h>
```

```
int main()
```

```
{
```

```
    printf("Enter the size of list \n");
```

```
    int size;
```

```
    scanf("%d",&size);
```

```
    int array[size];
```

```
    printf("Enter the elements\n");
```

```
    for(int i=0;i<size;i++){
```

```
        scanf("%d",&array[i]);
```

```
    }
```

```
    printf("Enter the element for which listing of factors need to be done\n");
```

```
    int x;
```

```
    scanf("%d",&x);
```

```
    printf("Factors for %d in the list are: \n",x);
```

```
    int i;
```

```
    for(i=0;i<size;i++){
```

```
        if(x%array[i]==0)
```

```
            printf("%d ",array[i]);
```

```
        }
```

```
}
```



Coding Challenge #11 (JAVA Solution)

```
import java.util.*;

public class FactorsList
{
    public static void main(String[] args)
    {
        Scanner input = new Scanner(System.in);
        System.out.println("Enter the size of list");
        int size = input.nextInt();
        int[] array = new int[size];
        System.out.println("Enter the elements");
        for(int i=0;i<size;i++){
            array[i]=input.nextInt();
        }
        System.out.println("Enter the element for which listing of factors  
need to be done");
        int x=input.nextInt();
        System.out.println("Factors for " +x+" in the list are: ");
        for(int i : array){
            if(x%i == 0)
                System.out.print(i + " ");
            else
                continue;
        }
    }
}
```



Coding Challenge #12 (Question)

Rajendar is supposed to ask the program developer to find out whether the year given by him is leap year or not. So, come with an efficient logic to check whether the input year is leap year or not.

INPUT FORMAT:

User has to enter a number (the year for which he needs to check whether it is leap or not)

OUTPUT FORMAT:

1. Output a string saying the given number is leap year if it is and the given number is not a leap year if it is not.
2. Output a message saying Invalid year if the user enters a negative integer.

CONSTRAINTS:

The input number must be a non-negative integer.

SAMPLE INPUT 0:

2000

SAMPLE OUTPUT 0:

The given year is a leap year.

SAMPLE INPUT 1:

200

SAMPLE OUTPUT 1:

The given year is not a leap year.



PLACEMENTS KEY'S

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Coding Challenge #12 (Question contd.)

SAMPLE INPUT 2:

-200

SAMPLE OUTPUT:

INVALID YEAR INPUT

EXPLANATION:

Input is a negative number.

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<http://www.placementskey.com>



Coding Challenge #12 (C Solution)

```
#include <stdio.h>

int main()
{
    printf("Enter the year to check\n");
    int num;
    scanf("%d",&num);
    if(num<0)
        printf("INVALID YEAR INPUT");
    else if(num%4==0)
        printf("The given year is a leap year");
    else
        printf("The input year is not a leap year");
}
```



Coding Challenge #12 (JAVA Solution)

```
import java.util.*;

public class LeapYear
{
    public static void main(String[] args)
    {
        Scanner input = new Scanner(System.in);
        System.out.println("Enter the year to check");
        int num = input.nextInt();
        if(num<0)
            System.out.println("INVALID YEAR INPUT");
        else if(num%4==0)
            System.out.println("The given year is a leap year");
        else
            System.out.println("The input year is not a leap year");
    }
}
```