<center>**21.Sum of Prime Numbers**</center>

Write a program to find the sum of the prime numbers present in the given input array.

Include a function named **sumPrime** that accepts 2 arguments and returns an int. The first argument is a pointer to the input array and the second argument is an int that corresponds to the size of the array. The function returns the sum of the prime numbers in the input array.

If the size of the array is negative or if any element in the array is negative, print "Invalid Input" and terminate the program.

Please note that 1 is neither prime nor composite.

Input and Output Format:
Input consists of n+1 integers. The first integer corresponds to n, the number of elements in the array. The next 'n' integers correspond to the elements in the array.
Output consists of an integer.

Refer sample output for formatting specifications.

Assume that the maximum number of elements in the array is 20.

Sample Input 1:
5
2
4
8
9
11

Sample Output 1:
13

Sample Input 2:
-5

Sample Output 2:
Invalid Input

Sample Input 3:
5
23
2
-200

Sample Output 3:

Invalid Input

22.Leap Year

Write a program to find whether the given input year is a Leap Year.

Include a function named **checkLeapYear** that accepts an integer and returns an integer. The function returns
1. 1 if the input is a Leap Year
2. 0 if the input is not a Leap Year
3. -1 if the input is a negative number

Print Invalid Input if the function returns -1.

Input and Output Format:
Input consists of a single integer.
Refer sample output for formatting specifications.

Sample Input 1:
2000

Sample Output 1:
yes

Sample Input 2:
1610

Sample Output 2:
no

Sample Input 3:
-2345

Sample Output 3:
Invalid Input

23.secondLargest
Read the question carefully and follow the input and output format.

Write a function to find second largest number in the given input integer array.

Assume that all elements in the input array are unique.

Input and Output Format :

First line of input consists of n, the number of elements. Next n lines correspond to the array elements. Output consist of an integer, which is the second largest.

1) Print "Invalid array size" when size of the array is a negative number and terminate the program.
2) Print "Invalid input" when there is any negative number available in the input array and terminate the program.

Sample Input 1:
5
3
342
53
2
12

Sample Output 1:
53

Sample Input 2:
5
3
342
53
-2

Sample Output 2:
Invalid input

24.findFirstLargest

Read the question carefully and follow the input and output format.

Write a function to find the product of the first and the third largest numbers in the given input integer array.

Input and Output Format :
First line of input corresponds to n, the size of array and next n lines correspond to the elements of the array

Print "Invalid array size" when size of the array is a negative number and terminate the program
Print "Invalid number" when there is any negative numbers available in the input array and terminate the program.

Include a function named findFirstLargest(int n, int array[]) that returns an integer, product of first and third largest numbers.

Sample Input 1:
5
11
241
83
8
2

Sample Output 1:
2651

Sample Input 2:
3
83
-8
Sample Output 2:
Invalid number

25.generateCode
Read the question carefully and follow the input and output format.

In a game show everybody got one coupon with some code. They need to generate a code with only even numbers in that coupon. Find the answer.

Input and Output Format :
Input consists of an integer. Output consist of an integer, which is the generated code.

1) Print "Number too small" when the given input number is a negative number.
2) Print "Number too large" when the given input number is greater than 32767.
3) Print 0 If the coupon does not contain any even numbers.

Sample Input 1:
4352

Sample Output 1:
42

Sample Input 2:
1357

Sample Output 2:
0

Sample Input 3:
-1357

Sample Output 3:
Number too small

<p align="center">**26.calculateBonus**</p>
Read the question carefully and follow the input and output format.

Given the basic salary as input, write a program to calculate the bonus and display it.

The bonus will be calculated based on the below category.
Basic>20000 bonus=17%of basic+1500
Basic>15000 bonus=15%of basic+1200
Basic>10000 bonus=12%of basic+1000
for rest =8%of basic+500

Input and Output Format :

First line of input consists of n, the basic salary.
Output is a single integer that displays the bonus.

Print "Number too large" when the given input numbers is greater than 32767 .
Print "Number too small" when the given input is a negative number.

Sample Input 1:
21000

Sample Output 1:
5070

Sample Input 2:
327678
Sample Output 2:
Number too large

<p align="center">**27.Minimum of 3**</p>

Write a program to find the minimum of 3 numbers.

Include a function named **findSmallest** that accepts 3 integer arguments and returns an integer that corresponds to the minimum value.

Input and Output Format:

Input consists of 3 integers.
Output consists of an integer.
Refer sample output for formatting specifications.

Sample Input 1:
4
12
3

Sample Output 1:
3

28.Sort and Delete

Write a program to delete the given number in the input array and then to sort the array.

Include a function named **sortAndDelete** that accepts 3 arguments and its return type is void. The first argument is the input array and the second argument is an int that corresponds to the size of the array and the third argument is the array element to be deleted. The number of elements in the modified array is stored in the global variable named output1.

If the size of the array is negative or if any of the elements in the array are negative , print "Invalid Input" and terminate the program.

Please note that the elements in the array may not be unique.

Input and Output Format:
Input consists of n+2 integers. The first integer corresponds to n, the number of elements in the array. The next 'n' integers correspond to the elements in the array. The last integer corresponds to the element to be deleted.
Output consists of an integer array.
Refer sample output for formatting specifications.

Assume that the maximum number of elements in the array is 20.

Sample Input 1:
8
1
6
3
5
8
10
4
8
8

Sample Output 1:
1
3
4
5
6
10

Sample Input 2:
-5

Sample Output 2:
Invalid Input

29.generateNewNumber

Read the question carefully and follow the input and output format.

Write a program to generate new number from the given input based on following conditions.

(i) Even digit should be replaced by next Even digit.
(ii) Odd digit should be replaced with next Odd digit

Input and Output Format :
Input consists of an integer. Output is also an integer.

1) Print "Number too small" when any of given input numbers is a negative number.
2) Print "Number too large" when any of given input numbers is greater than 32767.

Sample Input 1:
123

Sample Output 1:
345

Sample Input 2:
32768

Sample Output 2:
Number too large

30.findMileage
Read the question carefully and follow the input and output format.

Given the cubic capacity(CC) of a bike. Write a function to return the mileage/liter for the given Cubic

Capacity(CC). The mileage will be calculated as follows:

if CC is between 100 and 125, mileage is 75
if CC is between 126 and 135, mileage is 70
if CC is between 136 and 150, mileage is 60
if CC is between 151 and 200, mileage is 50
if CC is between 201 and 220, mileage is 35

First line of input consists of an integer that corresponds to CC of a bike. Output consist of an integer, which is the mileage.

Print "Number too large" when the given input CC is greater than 220.
Print "Number too small" when the given input CC is less than 100.

Sample Input 1:
1

Sample Output 1:
Number too small

Sample Input 2:
160

Sample Output 2:
50