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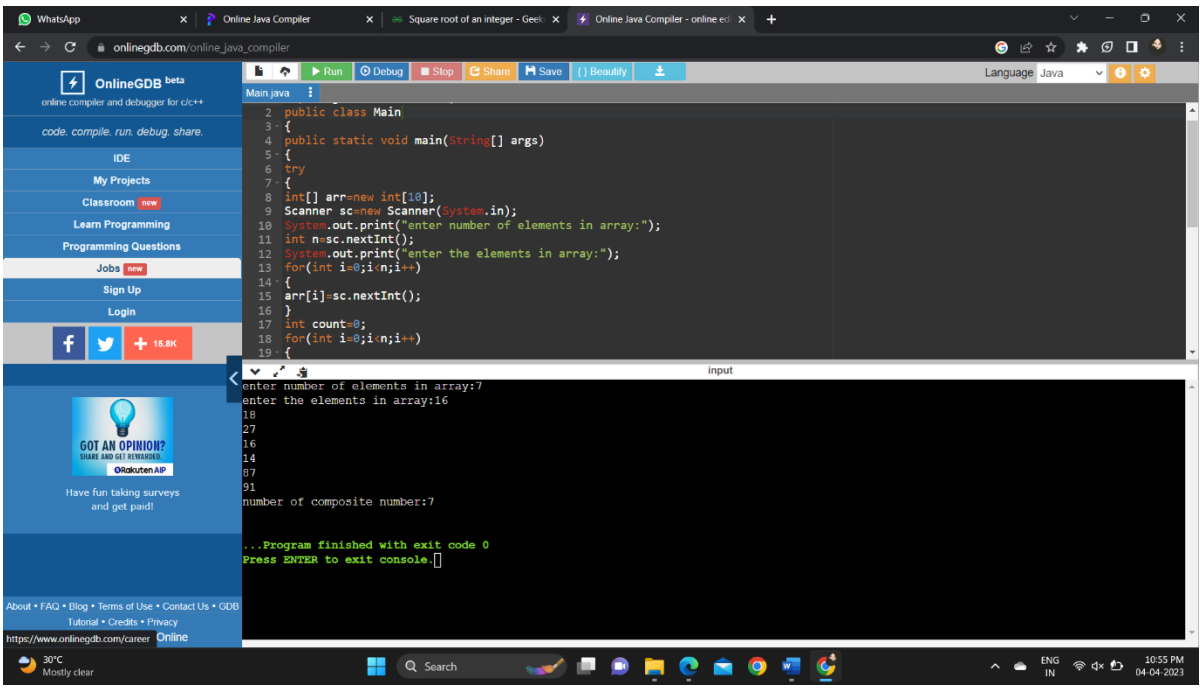
**192011312**

**CSA09 Programming in Java**
**Debugging Questions – Day 1 Assignment**

**1.** Write a program to find the number of composite numbers in an array of elements
Sample Input;:
Array of elements = {16, 18, 27, 16, 23, 21, 19}
Sample Output:
Number of Composite Numbers = 5
Test cases:
1. Array of elements = {26, 28, 37, 26, 33, 31, 29}
2. Array of elements = {1.6, 1.8, 2.7, 1.6, 2.3, 2.1, .19}
3. Array of elements = {0, 160, 180, 270, 160, 230, 210, 190, 0}
4. Array of elements = {200, 180, 180, 270, 270, 270, 190, 200}

```
import java.util.Scanner;
public class composite
{
public static void main(String[] args)
{
try
{
int[] arr=new int[10];
Scanner sc=new Scanner(System.in);
System.out.print("enter number of elements in array:");
int n=sc.nextInt();
System.out.print("enter the elements in array:");
for(int i=0;i<n;i++)
{
arr[i]=sc.nextInt();
}
int count=0;
for(int i=0;i<n;i++)
{
int c=0;
for(int j=1;j<100;j++)
{
if(arr[i]%j==0)
{
c++;
}
}
if(c>2)
count++;
}
System.out.println("number of composite number:"+count);
}
catch(Exception e)
{
System.out.print("invalid due to floating value");
```

```
}
}
}
```




**2.** Write a program for matrix addition?

Sample Input:

Mat1 = 1 2
5 3

Mat2 = 2 3
4 1

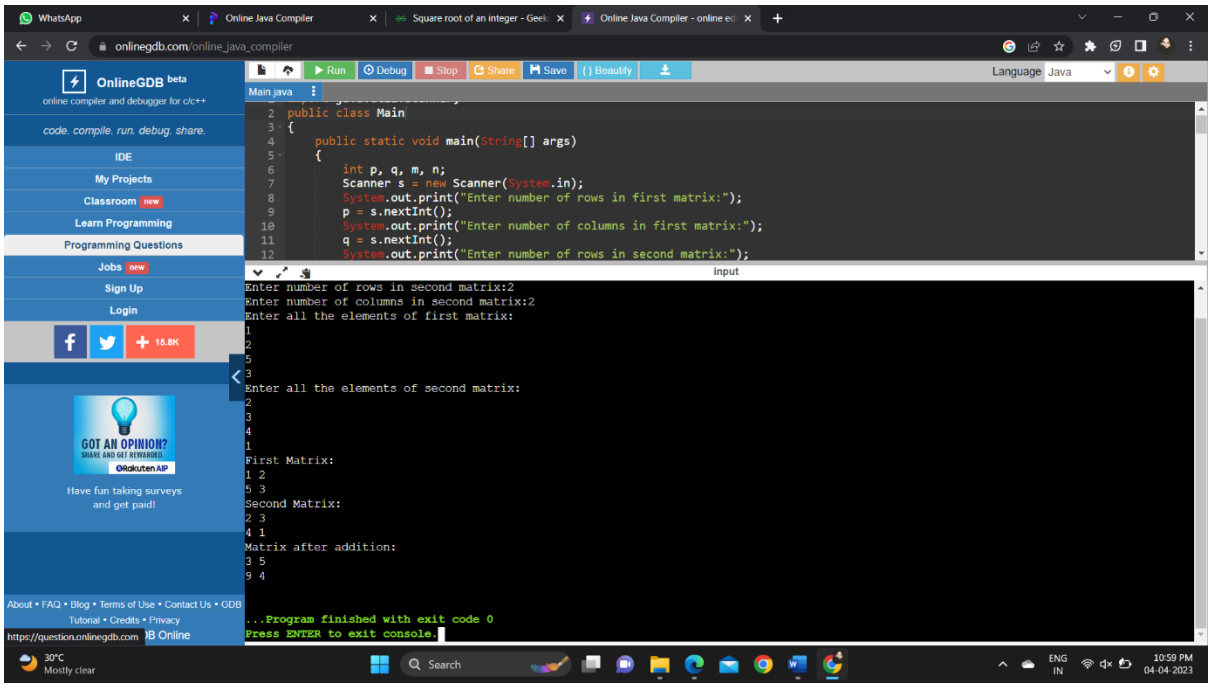
Sample Output:

Mat Sum = 3 5
9 4

```
import java.util.Scanner;
public class matrixaddition
{
   public static void main(String[] args)
   {
      int p, q, m, n;
      Scanner s = new Scanner(System.in);
      System.out.print("Enter number of rows in first matrix:");
      p = s.nextInt();
      System.out.print("Enter number of columns in first matrix:");
      q = s.nextInt();
      System.out.print("Enter number of rows in second matrix:");
      m = s.nextInt();
      System.out.print("Enter number of columns in second matrix:");
      n = s.nextInt();
      if (p == m && q == n)
      {
```

```
int a[][] = new int[p][q];
int b[][] = new int[m][n];
int c[][] = new int[m][n];
System.out.println("Enter all the elements of first matrix:");
for (int i = 0; i < p; i++)
{
   for (int j = 0; j < q; j++)
   {
      a[i][j] = s.nextInt();
   }
}
System.out.println("Enter all the elements of second matrix:");
for (int i = 0; i < m; i++)
{
   for (int j = 0; j < n; j++)
   {
      b[i][j] = s.nextInt();
   }
}
System.out.println("First Matrix:");
for (int i = 0; i < p; i++)
{
   for (int j = 0; j < q; j++)
   {
      System.out.print(a[i][j]+" ");
   }
   System.out.println("");
}
System.out.println("Second Matrix:");
for (int i = 0; i < m; i++)
{
   for (int j = 0; j < n; j++)
   {
      System.out.print(b[i][j]+" ");
   }
   System.out.println("");
}
for (int i = 0; i < p; i++)
{
   for (int j = 0; j < n; j++)
   {
      for (int k = 0; k < q; k++)
      {
         c[i][j] = a[i][j] + b[i][j];
      }
   }
}
System.out.println("Matrix after addition:");
for (int i = 0; i < p; i++)
{
```

```
            for (int j = 0; j < n; j++)
            {
               System.out.print(c[i][j]+" ");
            }
            System.out.println("");
         }
      }
      else
      {
         System.out.println("Addition would not be possible");
      }
   }
}
```




**3.** Given a non-negative integer x, return the square root of x rounded down to the nearest integer. The returned integer should be non-negative as well.

You must not use any built-in exponent function or operator.

For example, do not use pow(x, 0.5) in c++ or x ** 0.5 in python.

Example 1:

Input: x = 4

Output: 2

Explanation: The square root of 4 is 2, so we return 2.

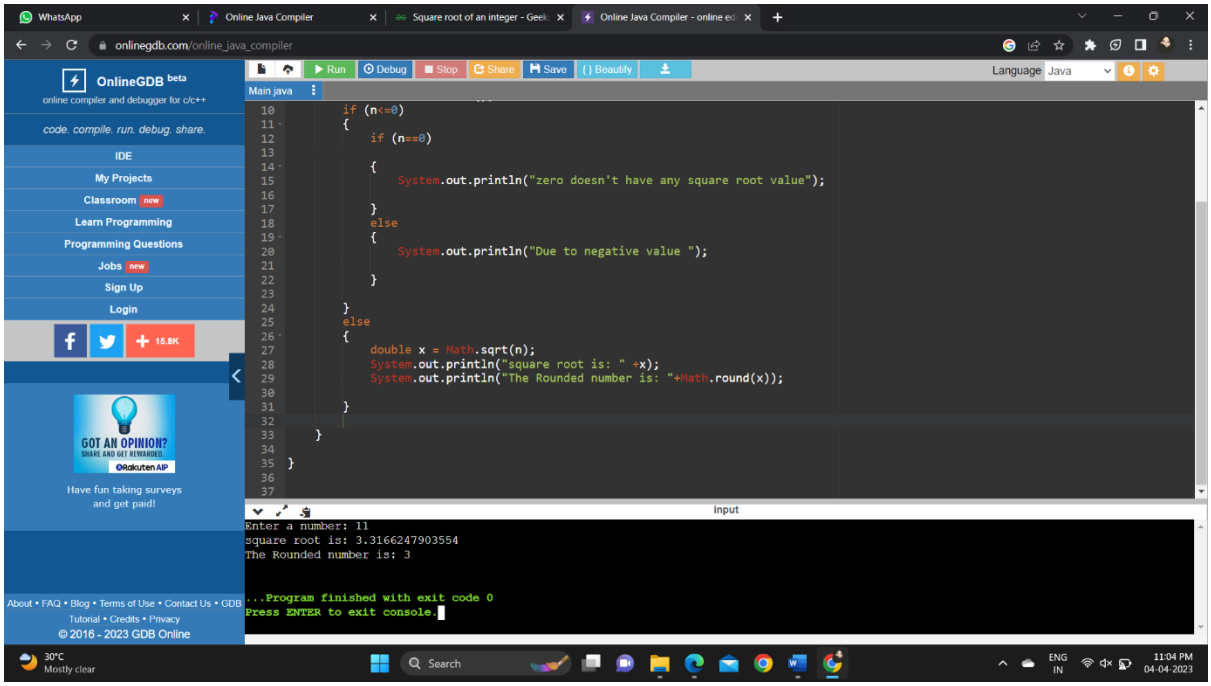
Example 2:

Input: x = 8

Output: 2

Explanation: The square root of 8 is 2.82842..., and since we round it down to the nearest integer, 2 is returned.

```
import java.util.Scanner; class rootsq

{

public static void main(String[] args)

System.out.print ("Enter a number: "); Scanner sc = new Scanner(System.in);

int n = sc. nextInt(); if (n<=0)

{

if (n==0)

{

System.out.println("zero doesn't have any square root value");

}

else

{

System.out.println("Due to negative value ");

}

}

else

{

double x = Math.sqrt(n); System.out.println("square root is: " +x);
System.out.println("The Rounded number is: "+Math.round(x));

}

}

}
```




**4.** Given an integer x, return true if x is a Palindrome , and false otherwise.

Example 1:

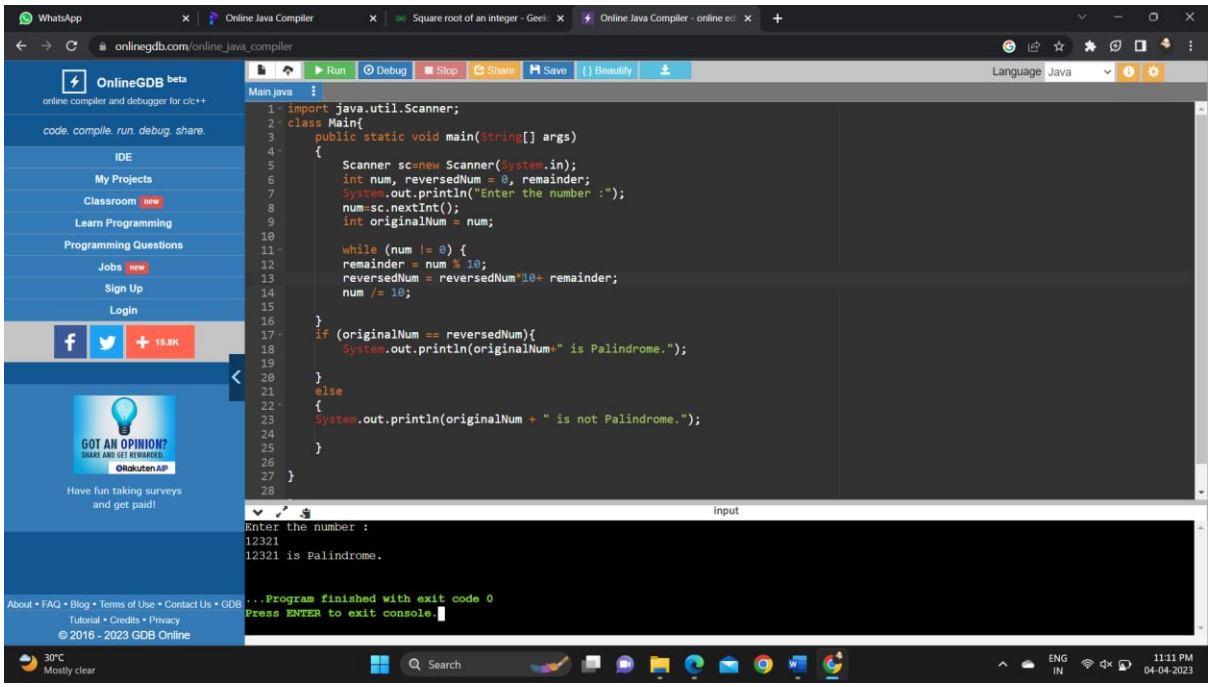
Input: x = 121
Output: true
Explanation: 121 reads as 121 from left to right and from right to left.
Example 2:

Input: x = -121
Output: false
Explanation: From left to right, it reads -121. From right to left, it becomes 121-. Therefore it is not a palindrome.
Example 3:

Input: x = 10
Output: false

```
import java.io.*;
import java.util.*;

class Main {
public static void main(String[] args)
{
  Scanner sc=new Scanner(System.in);
   int num, reversedNum = 0, remainder;
  System.out.println("Enter the number :");
    num=sc.nextInt();
    int originalNum = num;
```

```
while (num != 0) {
        remainder = num % 10;
        reversedNum = reversedNum =10+ remainder;

         num /= 10;

}

if (originalNum == reversedNum) {
System.out.println(original Num+" is Palindrome.");

}

else {
   System.out.println(originalNum + " is not Palindrome.");
    }
  }
}
```



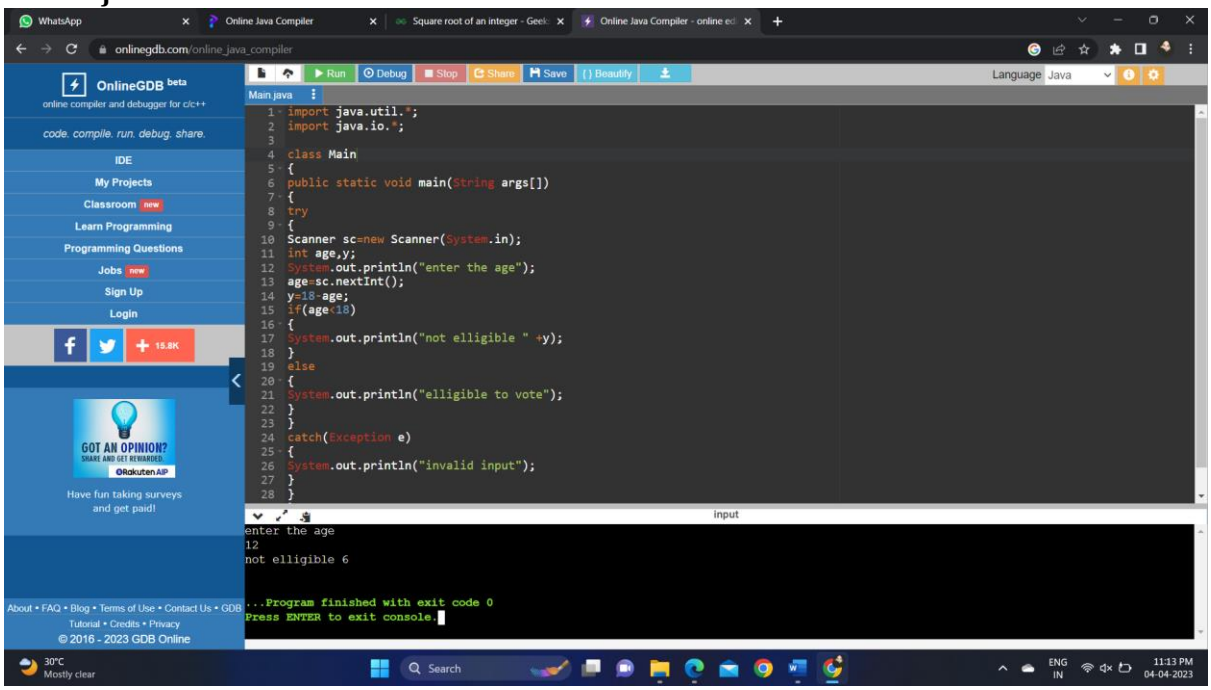

5. **Find the error and Debug the code**

```
import java.util.*;
class age{

public static void main(string arcs[]){

Scanner scan=new scanner (System.in);

System.out.println("Enter the age of person");
```

```
int user_age=scan.next Int();

System.out.printn("The age of person is"+user_age);

if(user_age>18)

{

System.out.println("You are eligible to Vote");

}

else{
System.out.println("You are not eligible to vote and ..for you  " + (18 - user_age) + " years are left to be eligible");

}
}

}
```

```
import java.util.*;
import java.io.*;

class vote
{
public static void main(String args[])
{
try
{
Scanner sc=new Scanner(System.in);
int age,y;
System.out.println("enter the age");
age=sc.nextInt();
y=18-age;
if(age<18)
{
System.out.println("not elligible " +y);
}
else
{
System.out.println("elligible to vote");
}
}
catch(Exception e)
{
System.out.println("invalid input");
}
}
```

}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Run
Debug
Stop
Share
Save
{ } Beautify
Language Java
Main.java
1 import java.util.*;
2 import java.io.*;
3
4 class Main
5 {
6 public static void main(String args[])
7 {
8 try
9 {
10 Scanner sc=new Scanner(System.in);
11 int age,y;
12 System.out.println("enter the age");
13 age=sc.nextInt();
14 y=18-age;
15 if(age<18)
16 {
17 System.out.println("not elligible " +y);
18 }
19 else
20 {
21 System.out.println("elligible to vote");
22 }
23 }
24 catch(Exception e)
25 {
26 System.out.println("invalid input");
27 }
28 }
input
enter the age
12
not elligible 6
...Program finished with exit code 0
Press ENTER to exit console.
30°C
Mostly clear
Search
ENG
IN
11:13 PM
04-04-2023