

CDAC Hyderabad

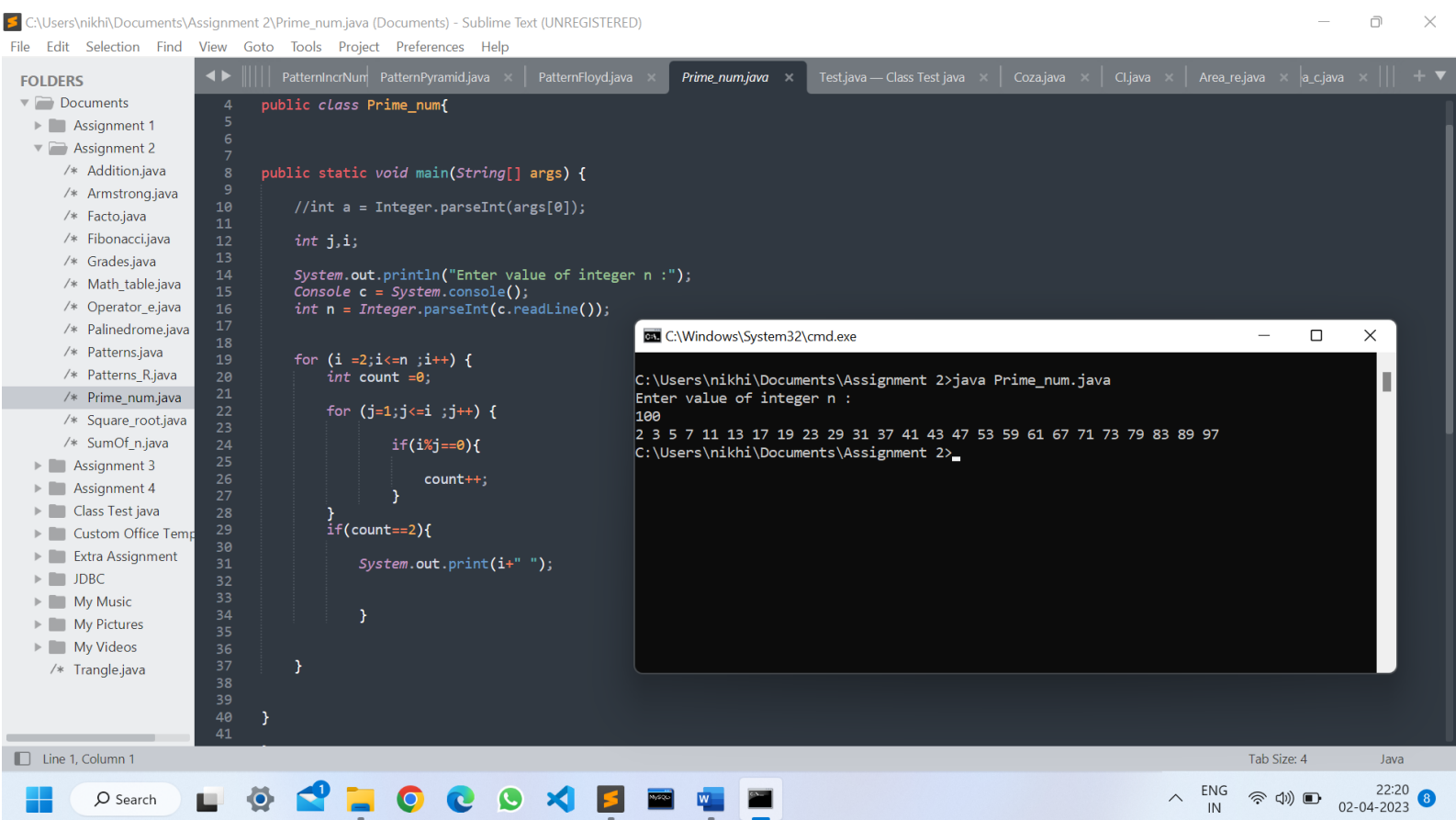
PG-DAC March 2023

OOPs With Java Assignment 2.

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Q1)



```
C:\Users\nikhi\Documents\Assignment 2\Prime_num.java (Documents) - Sublime Text (UNREGISTERED)
File Edit Selection Find View Goto Tools Project Preferences Help

FOLDERS
▼ Documents
  ▼ Assignment 1
  ▼ Assignment 2
    /* Addition.java
    /* Armstrong.java
    /* Facto.java
    /* Fibonacci.java
    /* Grades.java
    /* Math_table.java
    /* Operator_e.java
    /* Palindrome.java
    /* Patterns.java
    /* Patterns_R.java
    /* Prime_num.java
    /* Square_root.java
    /* SumOf_n.java
  ▼ Assignment 3
  ▼ Assignment 4
  ▼ Class Test java
  ▼ Custom Office Temp
  ▼ Extra Assignment
  ▼ JDBC
  ▼ My Music
  ▼ My Pictures
  ▼ My Videos
  ▼ Trangle.java

4 public class Prime_num{
5
6
7
8 public static void main(String[] args) {
9
10     //int a = Integer.parseInt(args[0]);
11
12     int j,i;
13
14     System.out.println("Enter value of integer n :");
15     Console c = System.console();
16     int n = Integer.parseInt(c.readLine());
17
18
19     for (i =2;i<=n ;i++) {
20         int count =0;
21
22         for (j=1;j<=i ;j++) {
23             if(i%j==0){
24                 count++;
25             }
26         }
27         if(count==2){
28             System.out.print(i+" ");
29         }
30     }
31
32
33
34
35
36
37
38
39
40
41 }
```

```
C:\Windows\System32\cmd.exe
C:\Users\nikhi\Documents\Assignment 2>java Prime_num.java
Enter value of integer n :
100
2 3 5 7 11 13 17 19 23 29 31 37 41 43 47 53 59 61 67 71 73 79 83 89 97
C:\Users\nikhi\Documents\Assignment 2>
```

Line 1, Column 1 Tab Size: 4 Java

Q2)

C:\Users\nikhi\Documents\Assignment 2\Facto.java (Documents) - Sublime Text (UNREGISTERED)

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 - Math_table.java
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 - Patterns_R.java
 - Prime_num.java
 - Square_root.java
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 - Assignment 3
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 - Extra Assignment
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 - My Pictures
 - My Videos
 - Trangle.java

```
1 import java.io.*;
2 public class Facto{
3
4
5
6     public static void main(String[] args) {
7
8         Console c = System.console();
9         System.out.println("Enter number to find Factorial :");
10        int n = Integer.parseInt(c.readLine());
11
12        double factorial=1;
13
14        for (int i =1;i<=n;i++) {
15
16            factorial= factorial*i;
17        }
18
19        System.out.println((int)factorial+" ");
20    }
21 }
```

C:\Windows\System32\cmd.exe

```
C:\Users\nikhi\Documents\Assignment 2>java Facto.java
Enter number to find Factorial :
20
2147483647

C:\Users\nikhi\Documents\Assignment 2>java Facto.java
Enter number to find Factorial :
5
120

C:\Users\nikhi\Documents\Assignment 2>
```

Line 19, Column 45

Tab Size: 4 Java

22:22 02-04-2023

Q3)

C:\Users\nikhi\Documents\Assignment 2\Palinedrome.java (Documents) - Sublime Text (UNREGISTERED)

File Edit Selection Find View Goto Tools Project Preferences Help

FOLDERS

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 - Assignment 1
 - Assignment 2
 - /* Addition.java
 - /* Armstrong.java
 - /* Facto.java
 - /* Fibonacci.java
 - /* Grades.java
 - /* Math_table.java
 - /* Operator_e.java
 - /* Palinedrome.java
 - /* Patterns.java
 - /* Patterns_R.java
 - /* Prime_num.java
 - /* Square_root.java
 - /* SumOf_n.java
 - Assignment 3
 - Assignment 4
 - Class Test.java
 - Custom Office Temp
 - Extra Assignment
 - JDBC
 - My Music
 - My Pictures
 - My Videos
 - Trangle.java

```
1 import java.io.*;
2 public class Palinedrome{
3
4
5     public static void main(String[] args) {
6
7         Console c = System.console();
8         System.out.println("Enter number to find Palindrome or not :");
9         int n = Integer.parseInt(c.readLine());
10        int rev=0,num;
11        int temp = n;
12
13        while(n!=0){
14            num = n%10;
15            rev = (rev*10)+num;
16            n = n/10;
17        }
18
19        if(temp==rev){
20
21            System.out.println("Palinedrome Number ");
22        }else
23            System.out.println("Not Palindrome Number ");
24
25
26    }
27
28
29
30 }
```

C:\Windows\System32\cmd.exe

```
C:\Users\nikhi\Documents\Assignment 2>java Palinedrome.java
Enter number to find Palindrome or not :
131
Palinedrome Number

C:\Users\nikhi\Documents\Assignment 2>java Palinedrome.java
Enter number to find Palindrome or not :
123
Not Palindrome Number

C:\Users\nikhi\Documents\Assignment 2>
```

Line 1, Column 1

Tab Size: 4 Java

22:23 02-04-2023

Q4)

```
import java.io.*;

public class Addition{

    static void add(int a, int b){

        System.out.println("Addition using method "+(a+b)); //2
    }

    Addition(int a, int b){

        System.out.println("Addition using Constructor :"+(a+b)); //3
    }

    static void add2(int c, int d){

        while (!(c==0)) {                                     //4

            d++;

            c--;

        }

        System.out.println("Addition using control loop :"+d);

    }
```

```

static void add3(int a,int b){

    while (b != 0) {

        // obtain carry using AND operator

        int carry = a & b;

        // obtain sum by using XOR
operator
        a = a ^ b;

        // Carry is shifted by one so, by
adding gives the sum
        b = carry << 1;
    }

    System.out.println("Addition using bit-wise operator :"+(a)); //5

}

public static void main(String[] args) {
    int a,b;

    Console c = System.console();
    System.out.println("Enter two integers to perform operations :");

    a = Integer.parseInt(c.readLine());
    b = Integer.parseInt(c.readLine());

    System.out.println("Addition : "+(a+b)); //1

```

Addition.add(a,b);

Addition.add2(a,b);

Addition.add3(a,b);

}

}

```
1  import java.io.*;
2  public class Addition{
3
4      static void add(int a, int b){
5
6          System.out.println("Addition using method "+(a+b)); //2
7      }
8
9      Addition(int a, int b){
10
11          System.out.println("Addition using control loop :35");
12      }
13
14      static void add2(int c, int d){
15
16          while (!(c==0)) {
17
18              d++;
19              c--;
20          }
21
22          System.out.println("Addition using bit-wise operator :35");
23      }
24
25      static void add3(int a,int b){
26
27          while (b != 0) {
28
29              int carry = a & b;
30
31              a = a ^ b;
32              b = carry << 1;
33          }
34          System.out.println("Addition using bit-wise operator :"+(a)); //5
35      }
36
37
38  }
```

C:\Users\nikhi\Documents\Assignment 2>java Addition.java

Enter two integers to perform operations :
12
23
Addition : 35
Addition using method 35
Addition using control loop :35
Addition using bit-wise operator :35

C:\Users\nikhi\Documents\Assignment 2>

Q5)

C:\Users\nikhi\Documents\Assignment 2\Square_root.java (Documents) - Sublime Text (UNREGISTERED)

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 - Fibonacci.java
 - Grades.java
 - Math_table.java
 - Operator_e.java
 - Palindome.java
 - Patterns.java
 - Patterns_R.java
 - Prime_num.java
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 - Assignment 3
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 - Class Test java
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 - My Music
 - My Pictures
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 - Trangle.java

```
1 import java.io.*;
2
3 public class Square_root{
4
5     public static void main(String[] args) {
6
7         Console c = System.console();
8         System.out.println("Enter value of Integer : ");
9
10        double number = Double.parseDouble(c.readLine());
11
12        double sr = number / 2;
13        double temp;
14        do {
15            temp = sr;
16
17            sr = (temp + (number / temp)) / 2;
18
19        } while ((temp - sr) != 0);
20
21        System.out.printf("%.2f", sr);
22
23        //System.out.printf("%.2f", (Math.pow(number, 1/2.0)));
24    }
25
26
27
28 }
```

C:\Windows\System32\cmd.exe

```
C:\Users\nikhi\Documents\Assignment 2>java Square_root.java
Enter value of Integer :
12.34
3.51
C:\Users\nikhi\Documents\Assignment 2>java Square_root.java
Enter value of Integer :
9
3.00
C:\Users\nikhi\Documents\Assignment 2>
```

Line 22, Column 1

Tab Size: 4 Java

ENG IN 22:24 02-04-2023

Q6)

C:\Users\nikhi\Documents\Assignment 2\Armstrong.java (Documents) - Sublime Text (UNREGISTERED)

File Edit Selection Find View Goto Tools Project Preferences Help

FOLDERS

- Documents
 - Assignment 1
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 - /* Addition.java
 - /* Armstrong.java
 - /* Facto.java
 - /* Fibonacci.java
 - /* Grades.java
 - /* Math_table.java
 - /* Operator_e.java
 - /* Palindrome.java
 - /* Patterns.java
 - /* Patterns_R.java
 - /* Prime_num.java
 - /* Square_root.java
 - /* SumOf_n.java
 - Assignment 3
 - Assignment 4
 - Class Test java
 - Custom Office Temp
 - Extra Assignment
 - JDBC
 - My Music
 - My Pictures
 - My Videos
 - /* Trangle.java

```
1  import java.io.*;
2  public class Armstrong{
3
4
5      public static void main(String[] args) {
6
7          Console cs = System.console();
8
9          System.out.println("Enter number to find Armstrong or not :");
10         int c = Integer.parseInt(cs.readLine());
11
12         int rem,sum =0,temp =c;
13
14         while(temp!=0){
15
16             rem = temp%10;
17             sum = sum + (int)(Math.pow(rem,3));
18             temp =temp/10;
19         }
20
21         if (c==sum)
22             System.out.println (c + " is Armstrong Number");
23         else
24             System.out.println (c + " is not a Armstrong Number");
25         }
26     }
```

C:\Windows\System32\cmd.exe

```
C:\Users\nikhi\Documents\Assignment 2>java Armstrong.java
Enter number to find Armstrong or not :
371
371 is Armstrong Number

C:\Users\nikhi\Documents\Assignment 2>java Armstrong.java
Enter number to find Armstrong or not :
121
121 is not a Armstrong Number

C:\Users\nikhi\Documents\Assignment 2>_
```

Line 24, Column 32

Tab Size: 4

Java

ENG IN 22:41 02-04-2023

Q7)

C:\Users\nikhi\Documents\Assignment 2\Grades.java (Documents) - Sublime Text (UNREGISTERED)

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 - Patterns_R.java
 - Prime_num.java
 - Square_root.java
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 - Assignment 3
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 - Class Test.java
 - Custom Office Temp
 - Extra Assignment
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 - My Music
 - My Pictures
 - My Videos
 - Trangle.java

```
1 import java.util.*;
2 public class Grades{
3
4     public static void main(String[] args) {
5
6         Scanner sc = new Scanner(System.in);
7
8         System.out.println("Enter physics marks :");
9         int marks = sc.nextInt();
10
11        System.out.println("Enter Science marks :");
12        int marks1 = sc.nextInt();
13
14        System.out.println("Enter Maths marks :");
15        int marks2 = sc.nextInt();
16
17        int total = (marks+marks2+marks1)/3;
18
19
20        if(total>80){
21
22            System.out.println("You Scored Grade : A");
23        }else
24            System.out.println("Your scored Grade : B");
25        }
26
27
28    }
```

C:\Windows\System32\cmd.exe

```
C:\Users\nikhi\Documents\Assignment 2>java Grades.java
Enter physics marks :
72
Enter Science marks :
78
Enter Maths marks :
74
Your scored Grade : B

C:\Users\nikhi\Documents\Assignment 2>java Grades.java
Enter physics marks :
98
Enter Science marks :
87
Enter Maths marks :
83
You Scored Grade : A

C:\Users\nikhi\Documents\Assignment 2>
```

Line 17, Column 41

Tab Size: 4 Java

ENG IN 22:45 02-04-2023

Q8)

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

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

```
public class Patterns_R
```

```
{
```

```
    void pattern(int x){
```

```
        if(x<1){
```

```
            return;
```

```
        }
```

```
        for (int i =1;i<=x ;i++ ) {
```

```
            System.out.print("* ");
```

```
        }
```

```
        System.out.println();
```

```
        pattern(x-1);
```

```
    }
```

```
    void pattern2(int n){
```

```
        switch (n){
```

```
        case 0:{
```

```

        return ;

    }

    default:{

        for (int i =1;i<=n ;i++ ) {
            System.out.print("* ");
        }
        System.out.println();

    }
}

pattern2(n-1);
}

public static void main(String[] args) {

    Console c = System.console();

    System.out.println("Enter value of n to find Pattern :");

    int n = Integer.parseInt(c.readLine());

```

```

aobj.pattern(n);
aobj.pattern2(n);

}

}
```

Q9)

The screenshot shows a Sublime Text editor window with the file `C:\Users\nikhi\Documents\Assignment 2\Fibonacci.java` open. The code is a Java program that calculates the Fibonacci series up to a user-defined number `n`. The code is as follows:

```
1 import java.io.*;
2
3 public class Fibonacci{
4
5     public static void main(String[] args) {
6
7         int first = 0;
8         int second = 1;
9         int next;
10
11         Console cs = System.console();
12
13         System.out.println("Enter integer n to find Fibonacci series :");
14         int n = Integer.parseInt(cs.readLine());
15
16         System.out.println("Fibonacci Series till n :");
17
18         for (int i=1;i<=n ;i++ ) {
19
20             System.out.println(first);
21
22             next = first + second;
23             first = second;
24             second = next;
25
26         }
27     }
28 }
29
30
31
32
33 }
```

The command prompt window shows the execution of the program. The user enters `20` for `n`, and the program outputs the Fibonacci series up to 20:

```
C:\Windows\System32\cmd.exe
C:\Users\nikhi\Documents\Assignment 2>java Fibonachci.java
Error: Could not find or load main class Fibonachci.java
Caused by: java.lang.ClassNotFoundException: Fibonachci.java

C:\Users\nikhi\Documents\Assignment 2>java Fibonacci.java
Enter integer n to find Fibonacci series :
20
Fibonacci Series till n :
0
1
1
2
3
5
8
13
21
34
55
89
144
233
377
610
987
1597
2584
4181

C:\Users\nikhi\Documents\Assignment 2>
```

The taskbar at the bottom shows the Windows taskbar with various icons and the system clock displaying 22:48 on 02-04-2023.

Q10

C:\Users\nikhi\Documents\Assignment 2\SumOf_n.java (Documents) - Sublime Text (UNREGISTERED)

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 - /* Palindrome.java
 - /* Patterns.java
 - /* Patterns_R.java
 - /* Prime_num.java
 - /* Square_root.java
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 - Trangle.java

```
1 import java.io.*;
2
3 public class SumOf_n{
4
5
6
7     public static void main(String[] args) {
8
9         Console cs= System.console();
10
11         System.out.println("Enter integer to find sum of n :");
12         int n = Integer.parseInt(cs.readLine());
13
14         int sum =0;
15         for (int i =1;i<=n ;i++) {
16
17             sum = sum+i;
18
19         }
20         System.out.println("Sum of n number is :"+(sum));
21
22     }
23 }
```

Select C:\Windows\System32\cmd.exe

```
C:\Users\nikhi\Documents\Assignment 2>java SumOf_n.java
Enter integer to find sum of n :
20
Sum of n number is :210

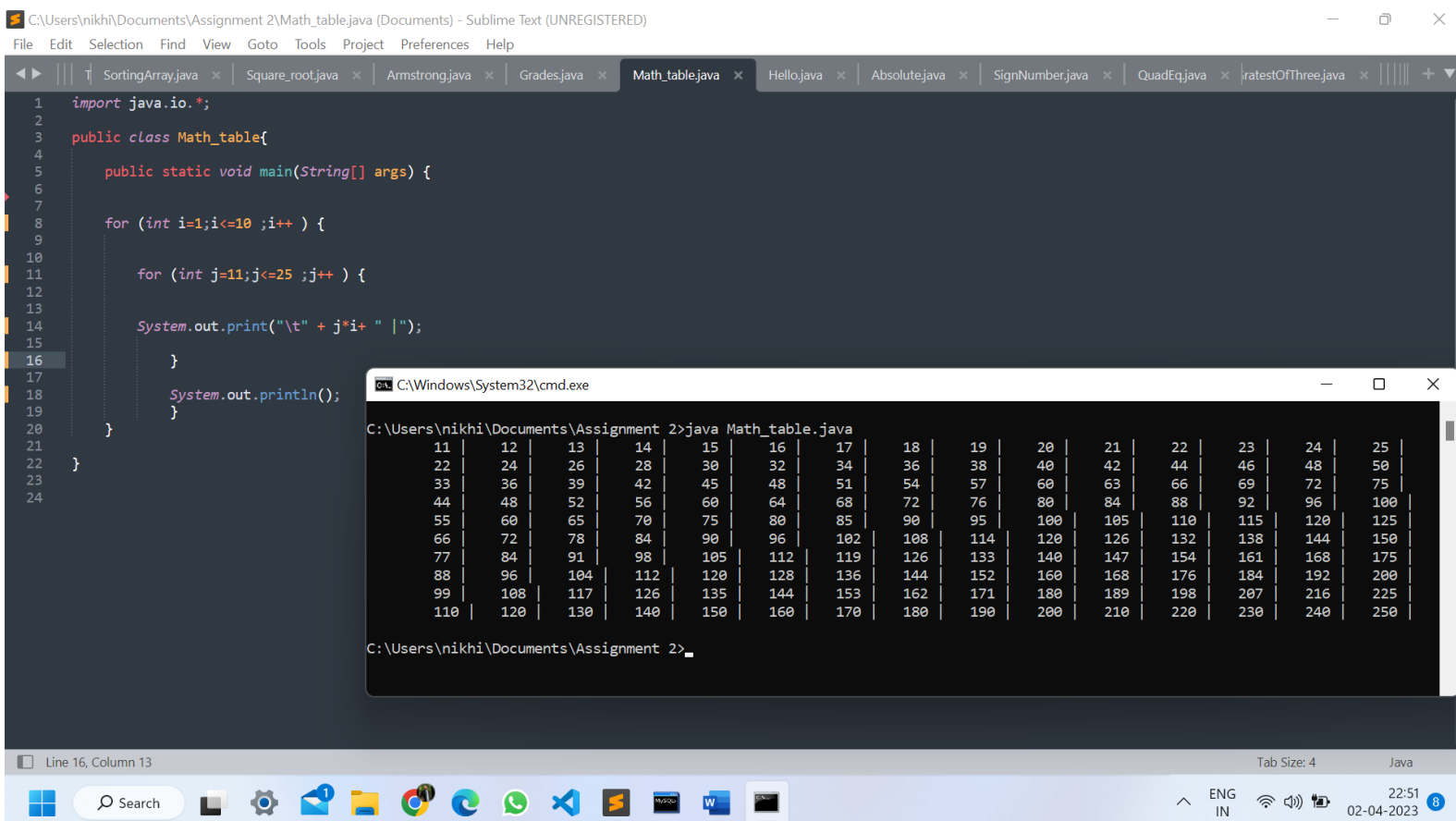
C:\Users\nikhi\Documents\Assignment 2>
```

Line 1, Column 1

Tab Size: 4 Java

ENG IN 22:49 02-04-2023

Q11)



```
1 import java.io.*;
2
3 public class Math_table{
4
5     public static void main(String[] args) {
6
7         for (int i=1;i<=10 ;i++ ) {
8
9             for (int j=11;j<=25 ;j++ ) {
10
11                 System.out.print("\t" + j*i+ " |");
12
13             }
14
15             System.out.println();
16         }
17     }
18 }
19
20
21
22
23
24
```

C:\Windows\System32\cmd.exe

C:\Users\nikhi\Documents\Assignment 2>java Math_table.java

11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
22	24	26	28	30	32	34	36	38	40	42	44	46	48	50
33	36	39	42	45	48	51	54	57	60	63	66	69	72	75
44	48	52	56	60	64	68	72	76	80	84	88	92	96	100
55	60	65	70	75	80	85	90	95	100	105	110	115	120	125
66	72	78	84	90	96	102	108	114	120	126	132	138	144	150
77	84	91	98	105	112	119	126	133	140	147	154	161	168	175
88	96	104	112	120	128	136	144	152	160	168	176	184	192	200
99	108	117	126	135	144	153	162	171	180	189	198	207	216	225
110	120	130	140	150	160	170	180	190	200	210	220	230	240	250

C:\Users\nikhi\Documents\Assignment 2>_

Line 16, Column 13

Tab Size: 4

Java

ENG IN

22:51

02-04-2023

Q12)

import java.io.*;

public class Operator_e{

static void addtion(int a, int b){

using increment decrement while(b>0){ //addion of number

a++;

b--;

}

System.out.println("Addtion of A and B
"+a);

}

static void arith(int a,int b){

int c = a*b;

System.out.println("Multipliation of a
and b : "+c);

}


```

static void relat(int a,int b){

    if(a>b){

        System.out.println("Division of a
and b :"+(a/b));

    }else

        System.out.println("Multipliation of a
and b : "+(a*b));

}

```

```

static void bitwise(int a,int b){

    a = 10;
    b = 20;
    System.out.println("Values before swap
"+(a+" "+b));

    a = a ^ b;
    b = a ^ b;
    a = a ^ b;

    System.out.println("After before swap
"+(a+" "+b));

}

```

```

static void ternary(int a,int b){

    int c =a>b?a:b;

    System.out.println("Gratest number is
"+c);

}

public static void main(String[] args) {

    Console c = System.console();

    System.out.println("Enter value of n to
find Pattern :");

    int a = Integer.parseInt(c.readLine());
    int b = Integer.parseInt(c.readLine());

    addtion(a,b);
    arith(a,b);
    relat(a,b);
    bitwise(a,b);
    ternary(a,b);

}

}

```

FOLDERS

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```
1 import java.io.*;
2
3 public class Operator_e{
4
5     static void addtion(int a, int b){
6
7         while(b>0){ //addion of number using increment decrement
8             a++;
9             b--;
10        }
11
12        System.out.println("Addtion of A and B "+a);
13    }
14
15    static void arith(int a,int b){
16
17
18        int c = a*b;
19        System.out.println("Multipliation of a and b : "+c);
20    }
21
22    static void relat(int a,int b){
23
24
25        if(a>b){
26
27            System.out.println("Divison of a and b :"+(a/b));
28        }else
29            System.out.println("Multipliation of a and b : "+(a*b));
30    }
31
32    static void bitwise(int a,int b){
33
34
35        a = 10;
36        b = 20;
37        System.out.println("Values before swap "+(a+" "+b));
38        a = a ^ b;
```

C:\Windows\System32\cmd.exe

```
C:\Users\nikhi\Documents\Assignment 2>java Operator_e.java
Enter value of n to find Pattern :
5
5
Addtion of A and B 10
Multipliation of a and b : 25
Multipliation of a and b : 25
Values before swap 10 20
After before swap 20 10
Gratest number is 5
```

C:\Users\nikhi\Documents\Assignment 2>

Line 1, Column 1

Tab Size: 4 Java