1. sort the string in ascending or descending order

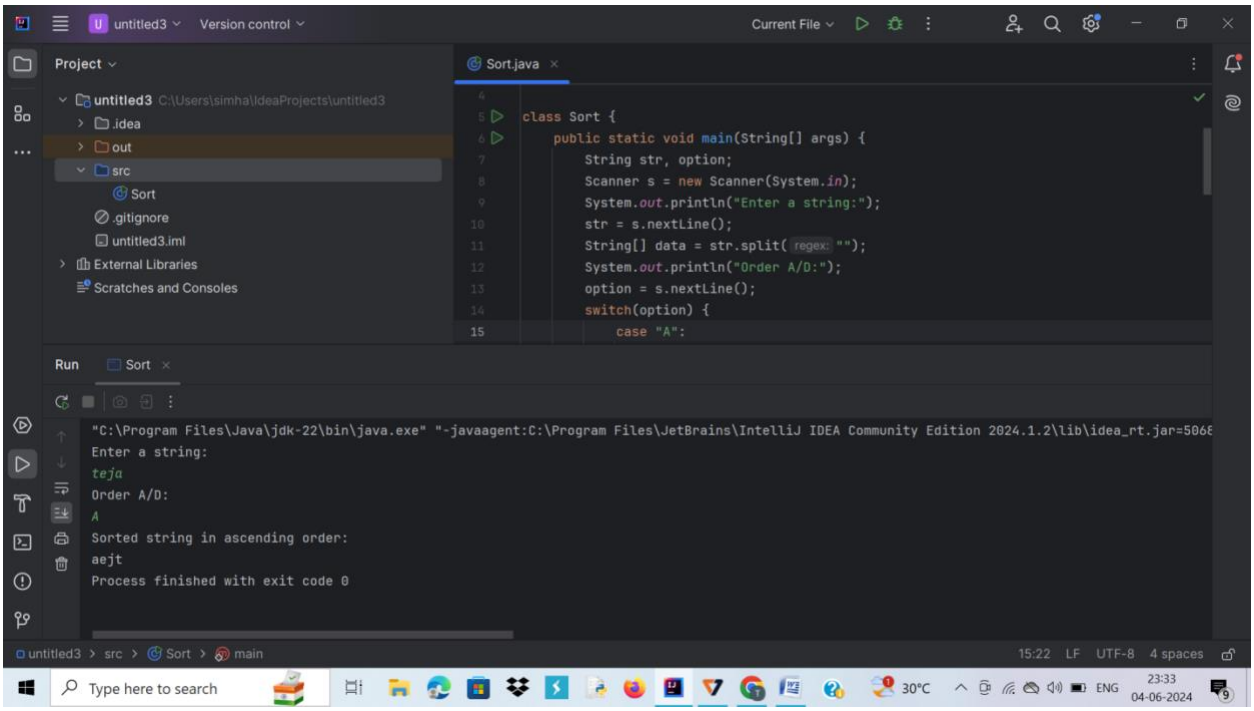
Program:

1. Write a java program to sort the string in ascending or descending order. Choice get from user.

Program:-

```
import java.util.arrays;
class sort
{
  public static void main (string[] args)
  {
     string str, option;
     Scanner s=new Scanner (System.in)
     System.out.println ("Enter a string:");
     str = s.nextLine();
     String[] data = str1.split(" ");
     System.out.println(" Order A/D:");
     option= s.nextLine ();
     switch (option)
     {
        case "A":
        Arrays.sort (data);
        for(sting output.data)
        case "D":
        Arrays.sort (data, collection.reverse Order());
        for (sting output.data)
        default:
        System.out.println("choose the correct option");
     }
  }
}
```

output:

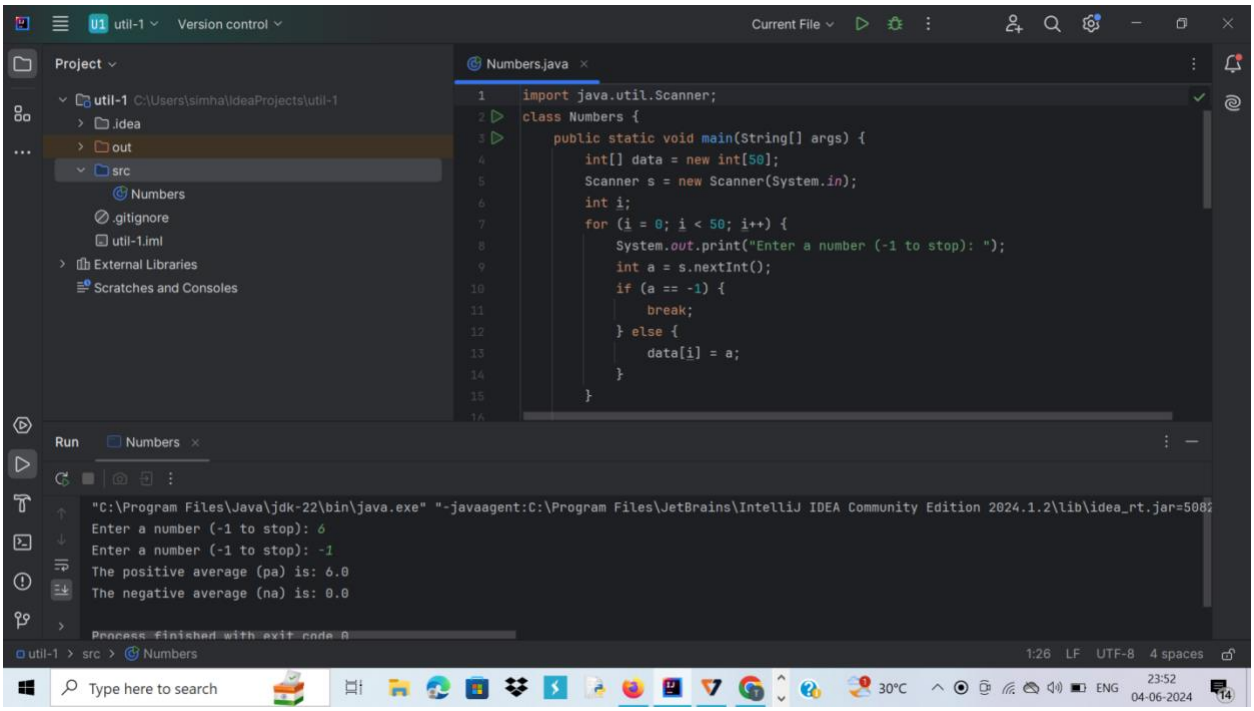

untitled3
Version control
Current File
Project
Sort.java
untitled3 C:\Users\simha\IdeaProjects\untitled3
.idea
out
src
Sort
.gitignore
untitled3.iml
External Libraries
Scratches and Consoles
class Sort {
public static void main(String[] args) {
String str, option;
Scanner s = new Scanner(System.in);
System.out.println("Enter a string:");
str = s.nextLine();
String[] data = str.split(regex: "");
System.out.println("Order A/D:");
option = s.nextLine();
switch(option) {
case "A":
Run
Sort
"C:\Program Files\Java\jdk-22\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.1.2\lib\idea_rt.jar=506
Enter a string:
teja
Order A/D:
A
Sorted string in ascending order:
aejt
Process finished with exit code 0
untitled3 > src > Sort > main
15:22 LF UTF-8 4 spaces
Type here to search
30°C
ENG
23:33
04-06-2024

2.

2. Write a java program to read the numbers until -1 encounted. Find the average of positive numbers and negative numbers. Entered by user.

```
Class numbers
{
  public static void main (String args[])
  {
     int[] data=new int[50];
     Scanner s=new Scanner (System.in);
     for(i=0; i<50; i++)
     {
       int a;
       a=s.nextInt();
       a==-1;
       if(a==1)
       {
         break;
       }
       else
       {
         data[i]=a;
       }
     }
     int pc=0, ps=0, pa=0, nc=0, ns=0, na=0.
     for(i=0; i<data.length(); i++)
     {
       if (data[i]<0)
       {
         ns=ns+data[i];
       }nc++;
       else
       {
         ps=ps+data[i];
       }pc++;
       pa = ps/pc;
       na = ns/nc;
```

Output:


util-1
Version control
Current File
Project
util-1 C:\Users\simha\IdeaProjects\util-1
.idea
out
src
Numbers
.gitignore
util-1.iml
External Libraries
Scratches and Consoles
Numbers.java
import java.util.Scanner;
class Numbers {
public static void main(String[] args) {
int[] data = new int[50];
Scanner s = new Scanner(System.in);
int i;
for (i = 0; i < 50; i++) {
System.out.print("Enter a number (-1 to stop): ");
int a = s.nextInt();
if (a == -1) {
break;
} else {
data[i] = a;
}
}
Run
Numbers
"C:\Program Files\Java\jdk-22\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.1.2\lib\idea_rt.jar=508
Enter a number (-1 to stop): 6
Enter a number (-1 to stop): -1
The positive average (pa) is: 6.0
The negative average (na) is: 0.0
Process finished with exit code 0
util-1 > src > Numbers
1:26 LF UTF-8 4 spaces
Type here to search
30°C
ENG
23:52
04-06-2024

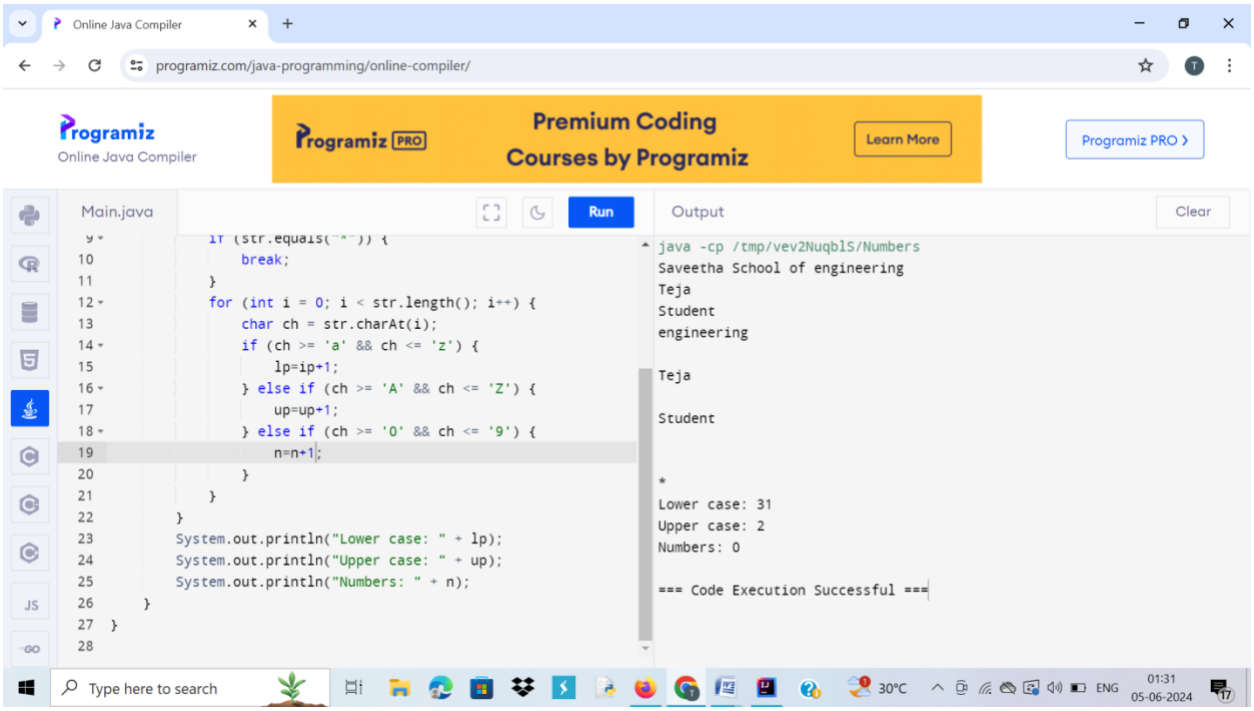
3.

```
        System.out.println("The pa" + pa);
        System.out.println("The na" + na);
    }
}
```

3. Write a java program to read a character until * is encounted also count the number of up case and lower case and Numbers entered by the user.

```
class numbers
{
  public static void main (sting args[])
  {
    char[] data = newLine() char [25];
    String str;
    int up, lp, n;
    for(i=0; i<25; i++)
    {
        str = s.nextLine();
        str == *;
        if (str== *)
        {
          break;
        }
        else
        {
          data[i]=str;
        }
    }
    for(i=0; i<str.length()-1; i++)
    {
      if (str.charAt(i)>='a' && str.charAt(i)<='z')
      {
        up=up+1;
      }
```

Output:


Online Java Compiler
programiz.com/java-programming/online-compiler/
Programiz
Online Java Compiler
Programiz PRO
Premium Coding
Courses by Programiz
Learn More
Programiz PRO
Main.java
Run
Output
Clear
break;
}
for (int i = 0; i < str.length(); i++) {
char ch = str.charAt(i);
if (ch >= 'a' && ch <= 'z') {
lp=ip+1;
} else if (ch >= 'A' && ch <= 'Z') {
up=up+1;
} else if (ch >= '0' && ch <= '9') {
n=n+1;
}
}
}
System.out.println("Lower case: " + lp);
System.out.println("Upper case: " + up);
System.out.println("Numbers: " + n);
}
}
java -cp /tmp/vev2NuqblS/Numbers
Saveetha School of engineering
Teja
Student
engineering
Teja
Student
*
Lower case: 31
Upper case: 2
Numbers: 0
=== Code Execution Successful ===
Type here to search
30°C
ENG
01:31
05-06-2024

4.

```
        else if (str.charAt(i)>='A' && str.charAt(i)<='Z')
        {
            up=up+1;
        }
        else
        {
            n=n+1;
        }
    }
    System.out.println("lower case:"+lp);
    System.out.println("upper case:"+up);
    System.out.println("numbers:"+n);
  }
}
```

4. Write a java program to find m^{th} maximum number and n^{th} minimum number in an array and find the sum and difference of it.

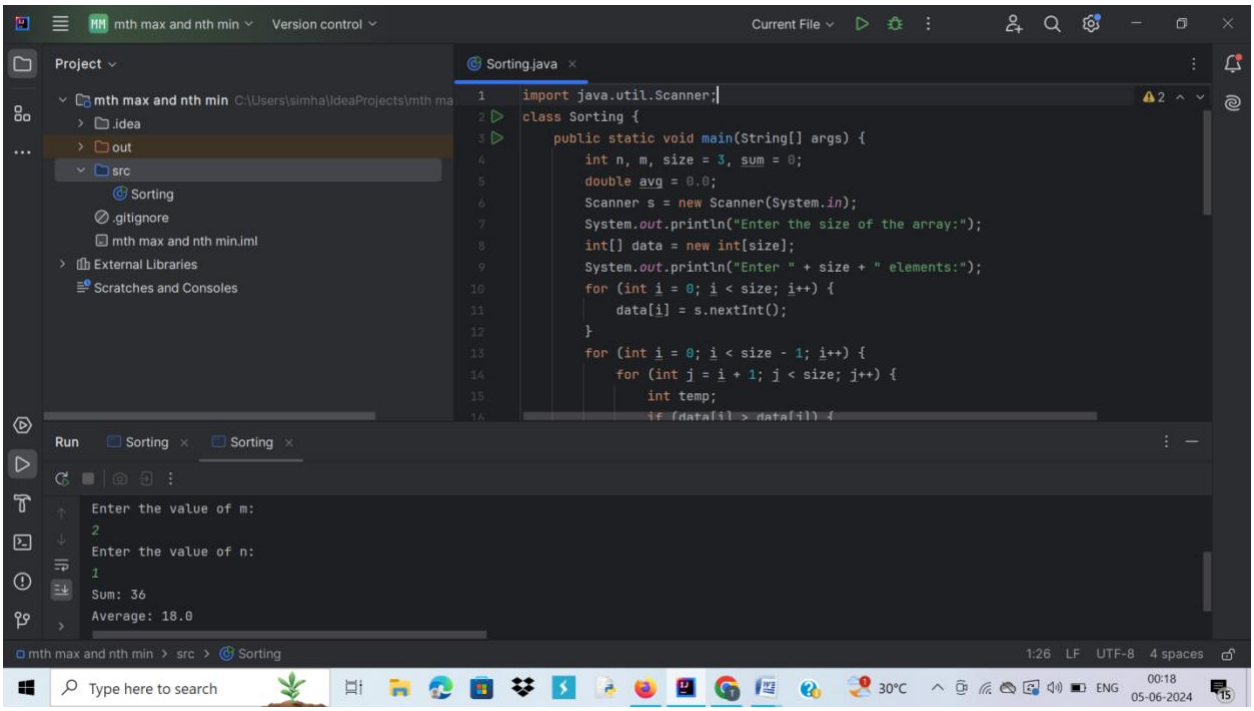
```
Class sorting
{
  public static void main (string args[])
  {
    int n,m, size, sum=0, diff=0;
    Scanner s=new Scanner (System.in);
    System.out.println("Enter the size of the array:");
    size=10;
    int [] data=new Int [size];
    for(i=0; i<size; i++)
    {
      data[i]=s.nextInt();
    }
    for(i=0; i<size; i++)
```

```
{
  for (j=i+1; j<size; j++)
  {
    int temp=0;
    if (data[i] > data[j])
    {
      temp = data[i];
      data[i] = data[j];
      data[j] = temp;
    }
  }
}
Sum = data[(size-1)-(m-1)] + data[n-1];
diff = data[(size-1)-(m-1)] - data[n-1];
System.out.println("sum:"+sum);
System.out.println("Diff:"+diff);
}
}
```

5. Bank is the class that provides method to get rate of interest. but rate of interest may differ according to banks. SBI is providing 8.4%, ICICI provides 7.3 percentage and Axis banks 9.7 % of rate of interest. Write a java program for above scenario.

```
Class bank
{
  double getROI();
}
class SBI extends bank
{
double getROI()
```

Output:


mth max and nth min
Version control
Current File
Project
mth max and nth min C:\Users\simha\IdeaProjects\mth ma
.idea
out
src
Sorting
.gitignore
mth max and nth min.iml
External Libraries
Scratches and Consoles
Sorting.java
import java.util.Scanner;
class Sorting {
public static void main(String[] args) {
int n, m, size = 3, sum = 0;
double avg = 0.0;
Scanner s = new Scanner(System.in);
System.out.println("Enter the size of the array:");
int[] data = new int[size];
System.out.println("Enter " + size + " elements:");
for (int i = 0; i < size; i++) {
data[i] = s.nextInt();
}
for (int i = 0; i < size - 1; i++) {
for (int j = i + 1; j < size; j++) {
int temp;
Run
Sorting
Sorting
Enter the value of m:
2
Enter the value of n:
1
Sum: 36
Average: 18.0
mth max and nth min > src > Sorting
1:26 LF UTF-8 4 spaces
Type here to search
30°C
ENG
00:18
05-06-2024

5.

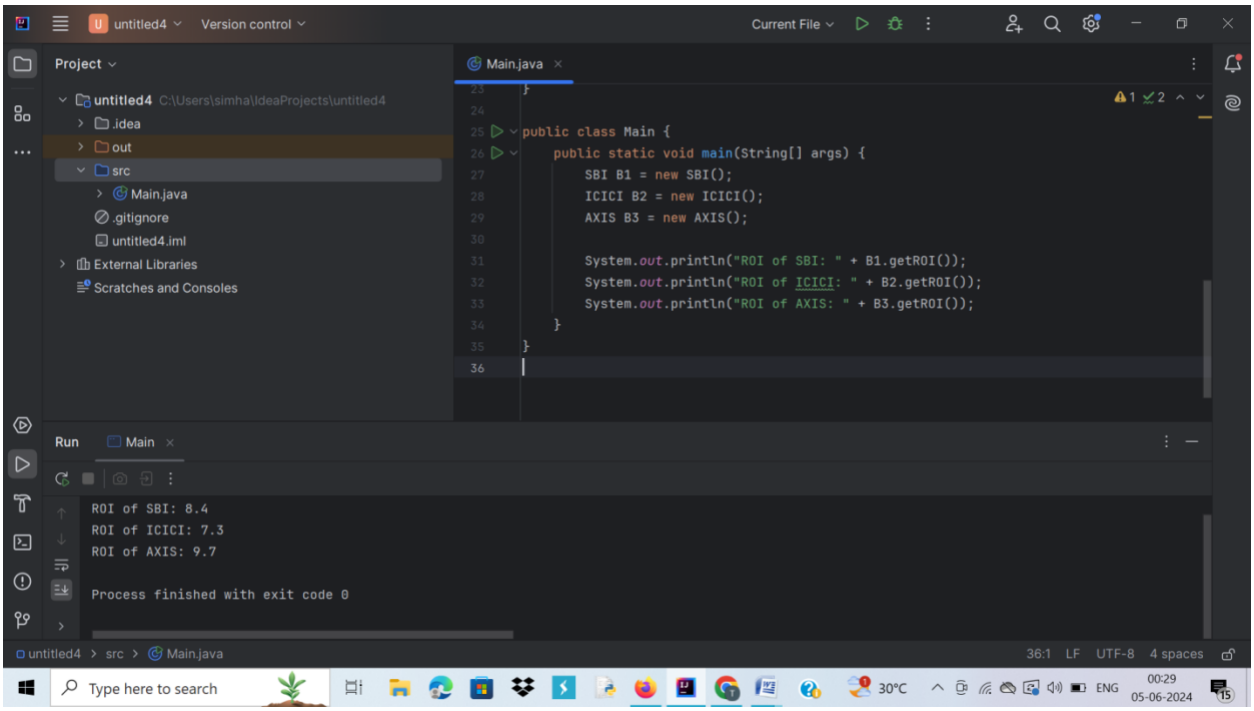
```
{
  for (j=i+1; j<size; j++)
  {
    int temp=0;
    if (data[i] > data[j])
    {
      temp = data[i];
      data[i] = data[j];
      data[j] = temp;
    }
  }
}
Sum = data[(size-1)-(m-1)] + data[n-1];
diff = data[(size-1)-(m-1)] - data[n-1];
System.out.println("sum:"+sum);
System.out.println("Diff:"+diff);
}
}
```

5. Bank is the class that provides method to get rate of interest. but rate of interest may differ according to banks. SBI is providing 8.4%, ICICI provides 7.3 percentage and Axis banks 9.7 % of rate of interest. Write a java program for above scenario.

```
Class bank
{
  double getROI();
}
class SBI extends bank
{
double getROI()
```

```
        {
            return 8.4;
        }
    }
    Class ICICI extends bank
    {
        double getROI()
        {
            return 7.3;
        }
    }
    Class Axis extends bank
    {
        double getROI()
        {
            return 9.7;
        }
    }
Class main
{
    public static void main(String args[])
    {
        SBI B1=new SBI();
        ICICI B2= new ICICI();
        Axis B3= new Axis();
        System.out.println("ROI SBI"+B1.getROI());
        System.out.println("ROI ICICI"+B2.getICICI());
        System.out.println("ROI Axis"+B3.getAxis());
    }
}
```

Output:

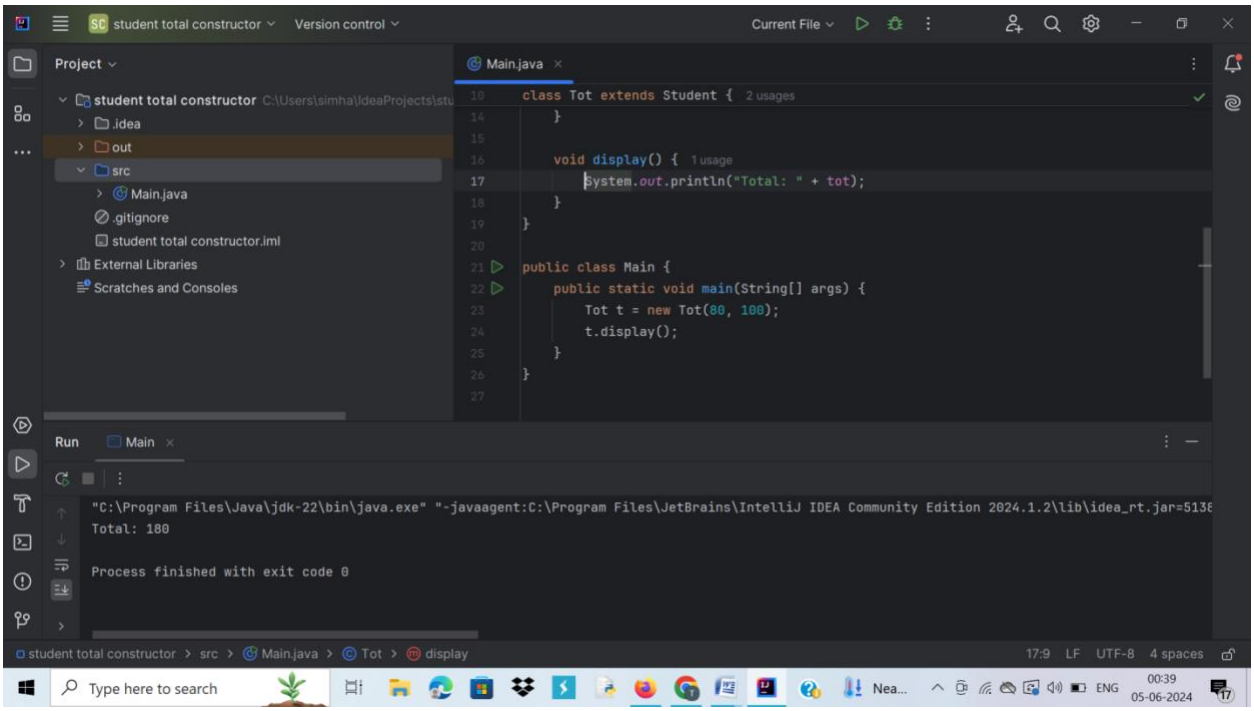

untitled4
Version control
Current File
Project
untitled4 C:\Users\simha\IdeaProjects\untitled4
.idea
out
src
Main.java
.gitignore
untitled4.iml
External Libraries
Scratches and Consoles
Main.java
}
public class Main {
public static void main(String[] args) {
SBI B1 = new SBI();
ICICI B2 = new ICICI();
AXIS B3 = new AXIS();
System.out.println("ROI of SBI: " + B1.getROI());
System.out.println("ROI of ICICI: " + B2.getROI());
System.out.println("ROI of AXIS: " + B3.getROI());
}
}
Run
Main
ROI of SBI: 8.4
ROI of ICICI: 7.3
ROI of AXIS: 9.7
Process finished with exit code 0
untitled4 > src > Main.java
36:1 LF UTF-8 4 spaces
Type here to search
30°C
ENG
00:29
05-06-2024

6.

6. Implement or Write a Java program for student total using constructor.

```
Class student
{
    int m1, m2, tot;
    Student (int mark1, int mark2)
    {
        m1 = mark1
        m2 = mark2
    }
    class tot extends student
    {
        tot = m1 + m2
        void display()
        {
            System.out.println(" Total: "+tot);
        }
    }
    Class main
    {
      public static void main (String args[])
      {
          tot t (80, 100);
          t.display();
      }
    }
```

Output:

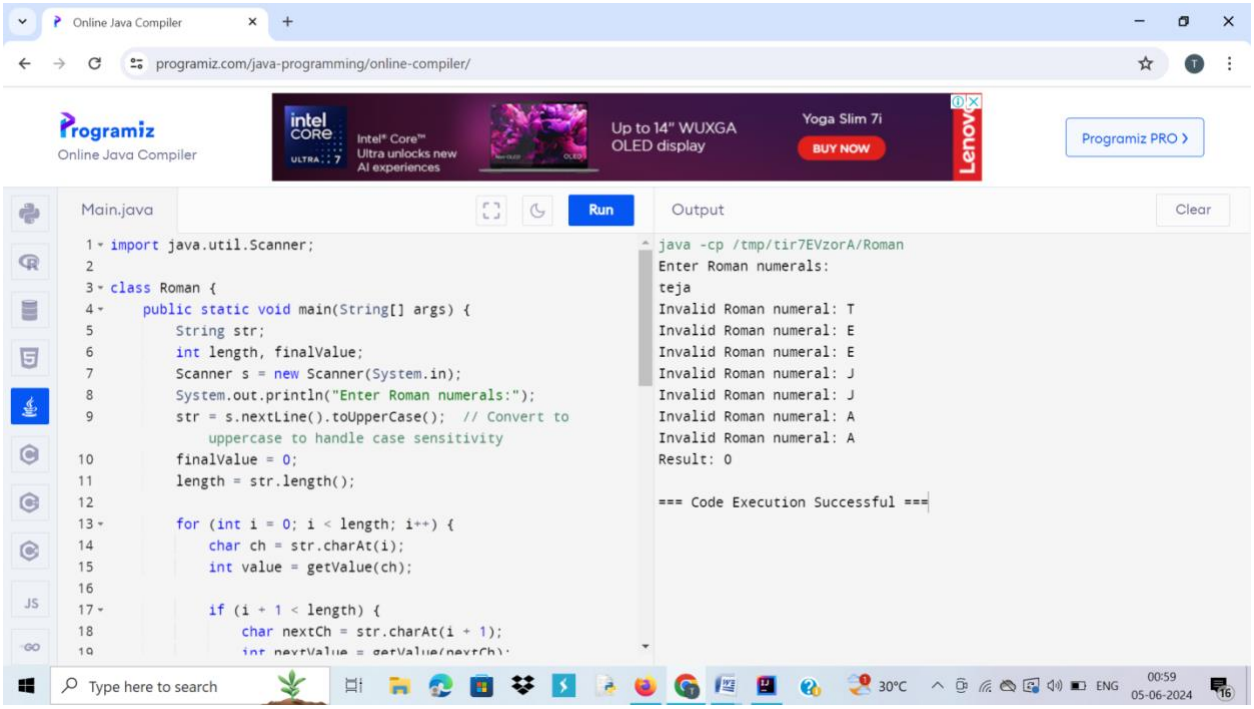

student total constructor
Version control
Current File
Project
student total constructor C:\Users\simha\IdeaProjects\stu
.idea
out
src
Main.java
.gitignore
student total constructor.iml
External Libraries
Scratches and Consoles
Main.java
class Tot extends Student { 2 usages
}
void display() { 1 usage
system.out.println("Total: " + tot);
}
}
public class Main {
public static void main(String[] args) {
Tot t = new Tot(80, 100);
t.display();
}
}
Run
Main
"C:\Program Files\Java\jdk-22\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.1.2\lib\idea_rt.jar=5138
Total: 180
Process finished with exit code 0
student total constructor > src > Main.java > Tot > display
17:9 LF UTF-8 4 spaces
Type here to search
ENG
00:39
05-06-2024

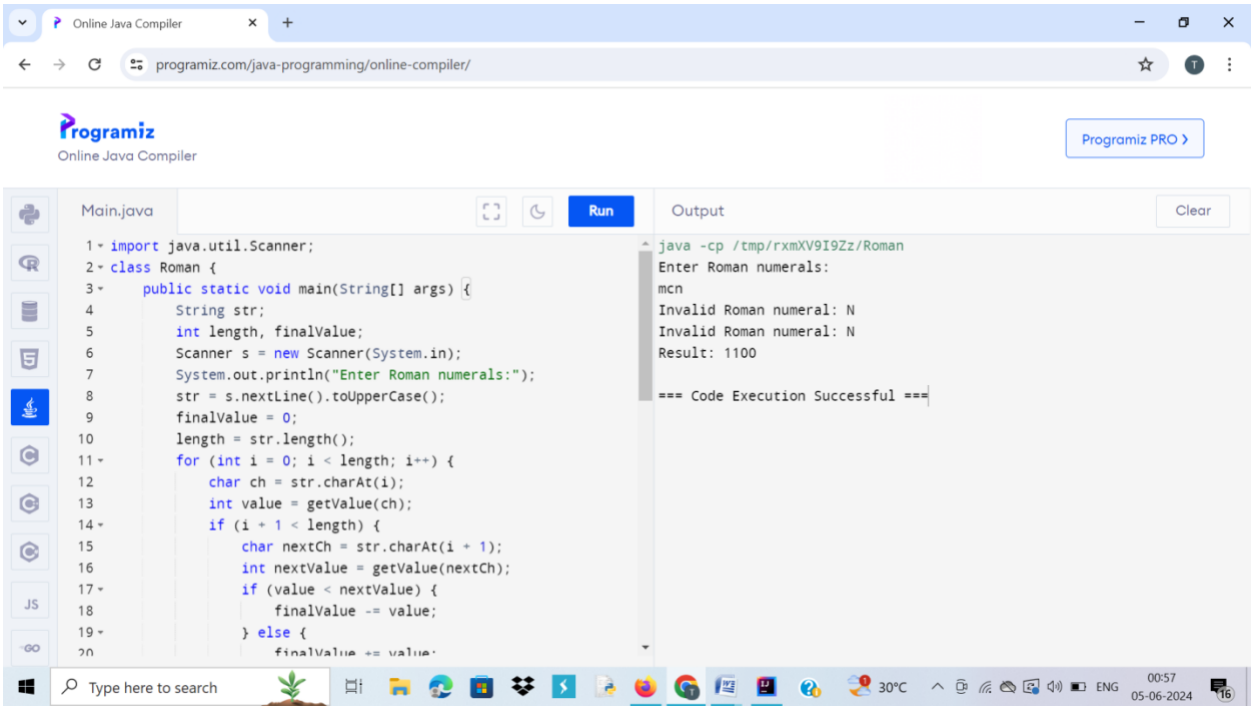
7.

7. Write a java program which converts roman numerals into integers

```
import java.util.*;
class roman
{
 public static void main (String args[])
 {
    String str;
    int length, final;
    Scanner s= new Scanner (System.in);
    System.out.println ("Enter roman numericals:");
    str = s.nextLine();
    final=0;
    length = str.length();
    for (int i=0 ; i<length ; i++)
    { char ch= str.charAt(i);
     char next ch= str.charAt(i+1);
     if (ch=='M')
     {
       final += 1000;
     }
     else if (ch=='C')
     {
       if (next ch=='M')
       {
         final += 900;
         i++;
       }
     else if (next ch=='n')
     {
        system.out.println("Invalid roman numerical");
     }
     System.out.println("Result"+final);
```

Output:


Online Java Compiler
programiz.com/java-programming/online-compiler/
Programiz
Online Java Compiler
Programiz PRO
Main.java
Run
Output
Clear
import java.util.Scanner;
class Roman {
public static void main(String[] args) {
String str;
int length, finalValue;
Scanner s = new Scanner(System.in);
System.out.println("Enter Roman numerals:");
str = s.nextLine().toUpperCase(); // Convert to uppercase to handle case sensitivity
finalValue = 0;
length = str.length();
for (int i = 0; i < length; i++) {
char ch = str.charAt(i);
int value = getValue(ch);
if (i + 1 < length) {
char nextCh = str.charAt(i + 1);
java -cp /tmp/tir7EVzorA/Roman
Enter Roman numerals:
teja
Invalid Roman numeral: T
Invalid Roman numeral: E
Invalid Roman numeral: E
Invalid Roman numeral: J
Invalid Roman numeral: J
Invalid Roman numeral: A
Invalid Roman numeral: A
Result: 0
=== Code Execution Successful ===
Type here to search
30°C
ENG
00:59
05-06-2024


Online Java Compiler
programiz.com/java-programming/online-compiler/
Programiz
Online Java Compiler
Programiz PRO
Main.java
Run
Output
Clear
import java.util.Scanner;
class Roman {
public static void main(String[] args) {
String str;
int length, finalValue;
Scanner s = new Scanner(System.in);
System.out.println("Enter Roman numerals:");
str = s.nextLine().toUpperCase();
finalValue = 0;
length = str.length();
for (int i = 0; i < length; i++) {
char ch = str.charAt(i);
int value = getValue(ch);
if (i + 1 < length) {
char nextCh = str.charAt(i + 1);
int nextValue = getValue(nextCh);
if (value < nextValue) {
finalValue -= value;
} else {
java -cp /tmp/rxmXV9I9Zz/Roman
Enter Roman numerals:
mcn
Invalid Roman numeral: N
Invalid Roman numeral: N
Result: 1100
=== Code Execution Successful ===
Type here to search
30°C
ENG
00:57
05-06-2024