Practical No. 1:

Write a java program to take input as a command line argument. Your name, course, university rollno and semester. Display the information.

Name:

University Roll No:

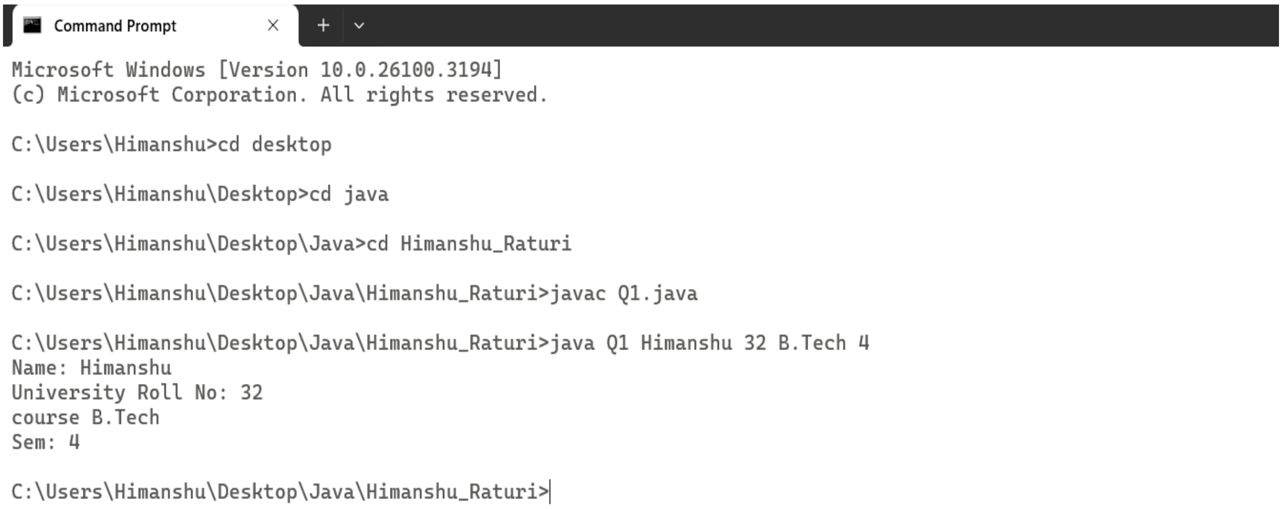
Course:

Semester:

Source Code:

```
public class Q1 {

  public static void main(String[] args) {

    String name = args[0];

    int RollNo = Integer.parseInt(args[1]);

    String course = args[2];

    int sem = Integer.parseInt(args[3]);

    System.out.println("Name: " + name);

    System.out.println("University Roll No: " + RollNo);

    System.out.println("course " + course);

    System.out.println("Sem: " + sem);

  }

}
```

Output:



```
Microsoft Windows [Version 10.0.26100.3194]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Himanshu>cd desktop

C:\Users\Himanshu\Desktop>cd java

C:\Users\Himanshu\Desktop\Java>cd Himanshu_Raturi

C:\Users\Himanshu\Desktop\Java\Himanshu_Raturi>javac Q1.java

C:\Users\Himanshu\Desktop\Java\Himanshu_Raturi>java Q1 Himanshu 32 B.Tech 4
Name: Himanshu
University Roll No: 32
course B.Tech
Sem: 4

C:\Users\Himanshu\Desktop\Java\Himanshu_Raturi>
```

Practical No. 2:

Using the switch statement, write a menu-driven program to calculate the maturity amount of a bank deposit.

The user is (i) Term Deposit (ii) Recurring Deposit

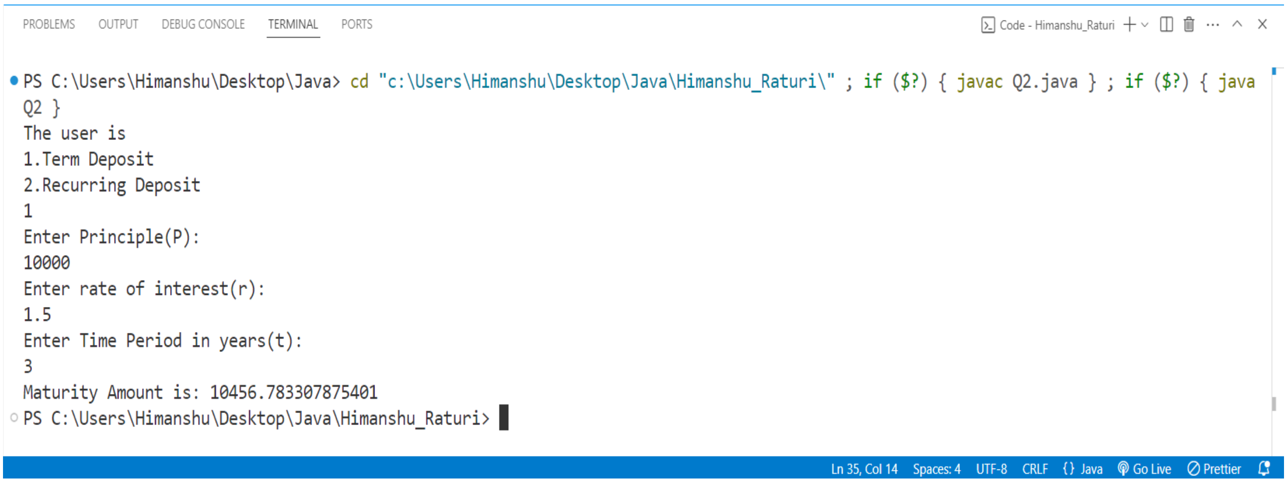
For option (i) accept Principal (p), rate of interest (r) and time period in years (n). Calculate and output the maturity amount (a) receivable using the formula a = p[1 + r / 100]n.

For option (ii) accept monthly installment (p), rate of interest (r) and time period in months (n). Calculate and output the maturity amount (a) receivable using the formula a = p * n + p * n(n + 1) / 2 * r / 100 * 1 / 12. For an incorrect option, an appropriate error message should be displayed.

Source Code:

```
import java.util.Scanner;
//import java.lang.*;
public class Q2
{
    public static void main(String args[])
    {
        System.out.println("The user is\n1.Term Deposit\n2.Recurring Deposit");
        Scanner sc = new Scanner(System.in);
        int Choice = sc.nextInt();
        switch(Choice)
        {
            case 1:
            {
                System.out.println("Enter Principle(P): ");
                int Princ = sc.nextInt();
                System.out.println("Enter rate of interest(r): ");
                float Rate = sc.nextFloat();
                System.out.println("Enter Time Period in years(t): ");
                int t = sc.nextInt();
                double Maturity = Princ*Math.pow(1+Rate/100,t);
                System.out.println("Maturity Amount is: " + Maturity);
                break;
            }
            case 2:
            {
                System.out.println("Enter Monthly installment(P): ");
                double p = sc.nextInt();
                System.out.println("Enter Rate of Interest(r): ");
                double r = sc.nextInt();
                System.out.println("Enter Time period(yrs): ");
                double t = sc.nextInt();
                double Maturity =  p * t + p * t*(t + 1) / 2 * r / 100 * 1 / 12;
                System.out.println("Maturity is: " + Maturity);
                break;
            }
        }
        sc.close();
    }
}
```

Output:



```
PS C:\Users\Himanshu\Desktop\Java> cd "c:\Users\Himanshu\Desktop\Java\Himanshu_Raturi\" ; if ($?) { javac Q2.java } ; if ($?) { java
Q2 }
The user is
1.Term Deposit
2.Recurring Deposit
1
Enter Principle(P):
10000
Enter rate of interest(r):
1.5
Enter Time Period in years(t):
3
Maturity Amount is: 10456.783307875401
PS C:\Users\Himanshu\Desktop\Java\Himanshu_Raturi>
```

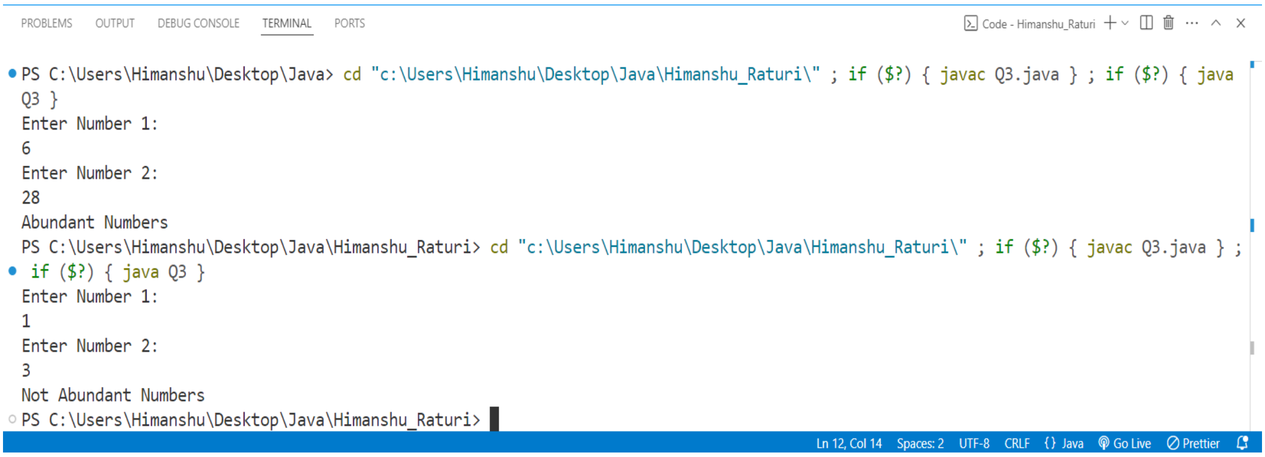
Practical No. 3:

Program to find if the given numbers are Friendly pair or not (Amicable or not). Friendly Pair are two or more numbers with a common abundance

Source Code:

```
import java.util.Scanner;


public class Q3 {
  public static void main(String args[]) {
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter Number 1: ");
    int num1 = sc.nextInt();
    System.out.println("Enter Number 2: ");
    int num2 = sc.nextInt();
    int sum1 = 0, sum2 = 0;
    for (int i = 1; i <= num1 / 2; i++)
    {
      if (num1 % i == 0)
      {
        sum1 += i;
      }
    }
    for (int i = 1; i <= num2 / 2; i++) {
      if (num2 % i == 0) {
        sum2 += i;
      }
    }
    if ((sum1 == num1) && (sum2 == num2)) {
      System.out.println("Abundant Numbers");
    } else {
      System.out.println("Not Abundant Numbers");
    }
    sc.close();
  }
}
```

Output:



```
PS C:\Users\Himanshu\Desktop\Java> cd "c:\Users\Himanshu\Desktop\Java\Himanshu_Raturi\" ; if ($?) { javac Q3.java } ; if ($?) { java
Q3 }
Enter Number 1:
6
Enter Number 2:
28
Abundant Numbers
PS C:\Users\Himanshu\Desktop\Java\Himanshu_Raturi> cd "c:\Users\Himanshu\Desktop\Java\Himanshu_Raturi\" ; if ($?) { javac Q3.java } ;
 if ($?) { java Q3 }
Enter Number 1:
1
Enter Number 2:
3
Not Abundant Numbers
PS C:\Users\Himanshu\Desktop\Java\Himanshu_Raturi>
```

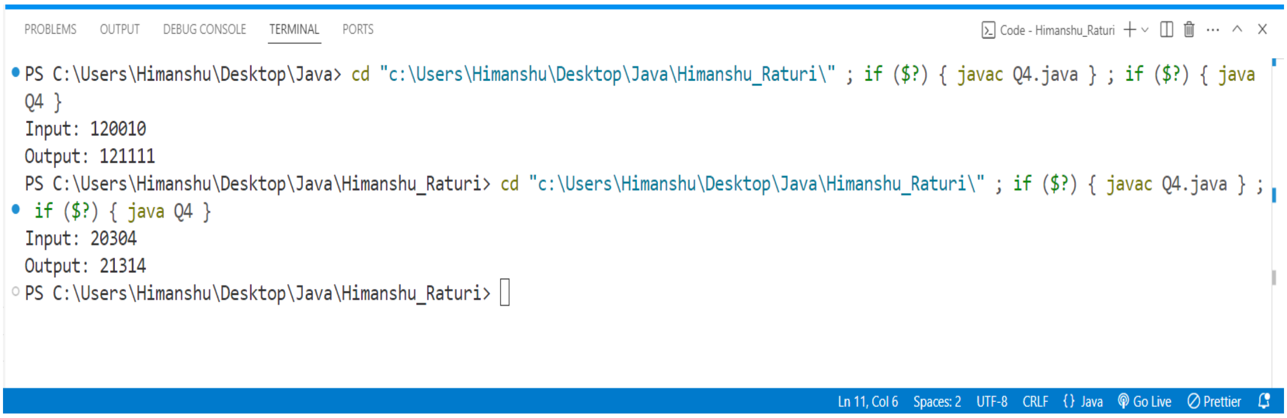
Practical No. 4:

Program to replace all 0's with 1 in a given integer. Given an integer as an input, all the 0's in the number has to be replaced with 1.

Source Code:

```
import java.util.Scanner;


public class Q4 {


  public static void main(String args[]) {
    Scanner sc = new Scanner(System.in);
    System.out.print("Input: ");
    int num = sc.nextInt();
    if (num == 0) {
      num = 1;
    }
    int x = 0;
    while (num > 0) {
      int val = num % 10;
      if (val == 0) {
        val = 1;
      }
      x = x * 10 + val;
      num = num / 10;
    }
    int ans = 0;
    while (x > 0) {
      int val = x % 10;
      ans = ans * 10 + val;
      x = x / 10;
    }
    System.out.print("Output: " + ans);
    sc.close();
  }
}
```

Output:



```
PS C:\Users\Himanshu\Desktop\Java> cd "c:\Users\Himanshu\Desktop\Java\Himanshu_Raturi\" ; if ($?) { javac Q4.java } ; if ($?) { java Q4 }
Input: 120010
Output: 121111
PS C:\Users\Himanshu\Desktop\Java\Himanshu_Raturi> cd "c:\Users\Himanshu\Desktop\Java\Himanshu_Raturi\" ; if ($?) { javac Q4.java } ; if ($?) { java Q4 }
Input: 20304
Output: 21314
PS C:\Users\Himanshu\Desktop\Java\Himanshu_Raturi> 
```

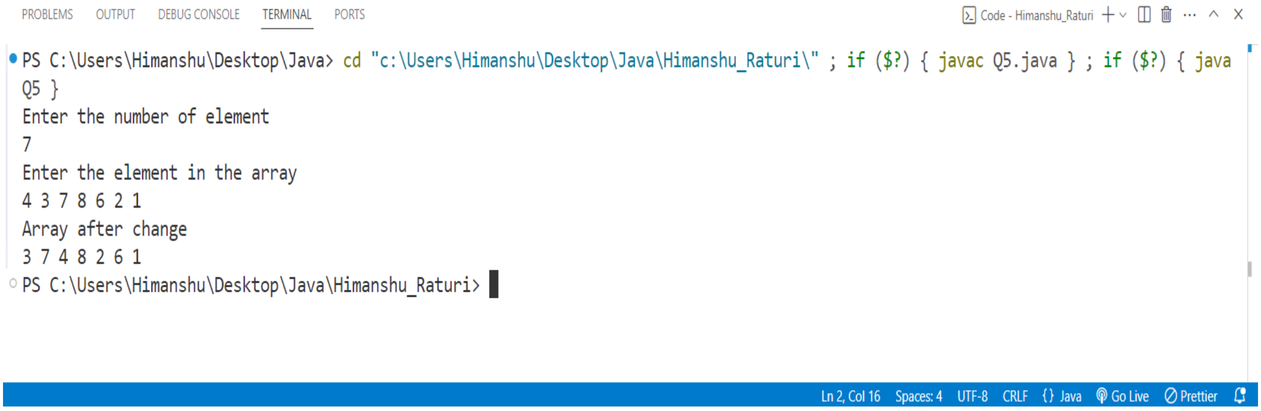
Practical No. 5:

Printing an array into Zigzag fashion. Suppose you were given an array of integers, and you are told to sort the integers in a zigzag pattern. In general, in a zigzag pattern, the first integer is less than the second integer, which is greater than the third integer, which is less than the fourth integer, and so on. Hence, the converted array should be in the form of e1 < e2 > e3 < e4 > e5 < e6.

Source Code:

```
import java.util.Scanner;
public class java5 {
    public static void main(String[] args) {
        {
            Scanner in=new Scanner(System.in);
            int n;
            System.out.println("Enter the number of element");
            n=in.nextInt();
            int arr[]=new int[n];
            int temp;
            System.out.println("Enter the element in the array ");
            for(int i=0;i<n;i++)
            {
                arr[i]=in.nextInt();
            }
            for(int i=0;i<n-1;i++)
            {
                if(i%2==0)
                {
                    if(arr[i]>arr[i+1])
                    {
                        temp=arr[i];
                        arr[i]=arr[i+1];
                        arr[i+1]=temp;
                    }
                }
                else
                {
                    if(arr[i]<arr[i+1])
                    {
                        temp=arr[i];
                        arr[i]=arr[i+1];
                        arr[i+1]=temp;
                    }
                }
            }
            System.out.println("Array after change ");
            for(int i=0;i<n;i++)
            {
                System.out.print(arr[i]+" ");
            }
            in.close();
        }
    }
}
```

Output:



```
PS C:\Users\Himanshu\Desktop\Java> cd "c:\Users\Himanshu\Desktop\Java\Himanshu_Raturi\" ; if ($?) { javac Q5.java } ; if ($?) { java
Q5 }
Enter the number of element
7
Enter the element in the array
4 3 7 8 6 2 1
Array after change
3 7 4 8 2 6 1
PS C:\Users\Himanshu\Desktop\Java\Himanshu_Raturi>
```