

Assignment :- 8

Program Code :

```
import java.io.*;

class StudentRecords
{
    static BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

    public void addRecords() throws IOException
    {
        // Create or Modify a file for Database

        PrintWriter pw = new PrintWriter(new BufferedWriter(new
        FileWriter("studentRecords.txt",true)));

        String name, Class, fname, mname, address, dob;

        int age;

        long telephoneNo;

        String s;

        boolean addMore = false;

        // Read Data

        do
        {
            System.out.print("\nEnter name: ");

            name = br.readLine();

            System.out.print("Father's Name: ");

            fname = br.readLine();

            System.out.print("Mother's Name: ");

            mname = br.readLine();

            System.out.print("Address: ");

            address = br.readLine();

            System.out.print("Class: ");

            Class = br.readLine();

            System.out.print("Date of Birth (dd/mm/yy) : ");
```

```

dob = br.readLine();
System.out.print("Age: ");
age = Integer.parseInt(br.readLine());

System.out.print("Telephone No.: ");
telephoneNo = Long.parseLong(br.readLine());
// Print to File
pw.println(name);
pw.println(fname);
pw.println(mname);
pw.println(address);
pw.println(Class);
pw.println(dob);
pw.println(age);
pw.println(telephoneNo);

    System.out.print("\nRecords added successfully !\n\nDo you want to add more records ? (y/n) : ");
s = br.readLine();
if(s.equalsIgnoreCase("y"))
{
    addMore = true;
    System.out.println();
}
else
    addMore = false;
}
while(addMore);
pw.close();
showMenu();
}

public void readRecords() throws IOException
{

```

```

try
{
    // Open the file
    BufferedReader file = new BufferedReader(new
    FileReader("studentRecords.txt"));

    String name;

    int i=1;

    // Read records from the file
    while((name = file.readLine()) != null)
    {
        System.out.println("S.No. : " +(i++));
        System.out.println("-----");
        System.out.println("\nName: " +name);
        System.out.println("Father's Name : "+file.readLine());
        System.out.println("Mother's Name : "+file.readLine());
        System.out.println("Address: "+file.readLine());
        System.out.println("Class: "+file.readLine());
        System.out.println("Date of Birth : "+file.readLine());
        System.out.println("Age: "+Integer.parseInt(file.readLine()));
        System.out.println("Tel. No.: "+Long.parseLong(file.readLine()));
        System.out.println();
    }
    file.close();
    showMenu();
}
catch(FileNotFoundException e)
{
    System.out.println("\nERROR : File not Found !!!");
}
}

public void clear() throws IOException

```

```

{
// Create a blank file

PrintWriter pw = new PrintWriter(new BufferedWriter(new
FileWriter("studentRecords.txt")));

pw.close();

System.out.println("\nAll Records cleared successfully !");

for(int i=0;i<999999999;i++); // Wait for some time

showMenu();

}

public void showMenu() throws IOException

{

System.out.print("1 : Add Records\n2 : Display Records\n3 : Clear All Records\n4 : Exit\n\nYour
Choice : ");

int choice = Integer.parseInt(br.readLine());

switch(choice)

{

case 1:

addRecords();

break;

case 2:

readRecords();

break;

case 3:

clear();

break;

case 4:

System.exit(1);

break;

default:

System.out.println("\nInvalid Choice !");

break;

```

```
}  
}  
public static void main(String args[]) throws IOException  
{  
    StudentRecords call = new StudentRecords();  
    call.showMenu();  
}  
}
```

/* Output

(base) os@os-Vostro-3268:~\$ javac StudentRecords.java

(base) os@os-Vostro-3268:~\$ java StudentRecords

1 : Add Records

2 : Display Records

3 : Clear All Records

4 : Exit

Your Choice : 1

Enter name: Mr PQR

Father's Name: Mr XYZ

Mother's Name: Mrs XYZ

Address: Pune

Class: SE IT

Date of Birth (dd/mm/yy) : 11/11/2002

Age: 20

Telephone No.: 12345

Records added successfully !

Do you want to add more records ? (y/n) : n

- 1 : Add Records
- 2 : Display Records
- 3 : Clear All Records
- 4 : Exit

Your Choice : 2

S.No. : 1

Name: Mr PQR

Father's Name : Mr XYZ

Mother's Name : Mrs XYZ

Address: Pune

Class: SE IT

Date of Birth : 11/11/2002

Age: 20

Tel. No.: 12345

- 1 : Add Records
- 2 : Display Records
- 3 : Clear All Records
- 4 : Exit

*/

Assignment :- 7

Program Code :

```
public class Generics{

    static boolean isPrime(int num){

        int flag =0;

        for(int i = 2;i<num;i++)

            if(num%i==0)

            {

                flag = 1;

                break;

            }

        if(flag==0)

            return true;

        return false;

    }

    static <T> void count(String str,T[] element){

        int even=0,odd=0,prime=0,palin=0;

        if(str.equals("even")){

            for(T value:element)

                if(Integer.parseInt(value.toString())%2==0)

                    even++;

            System.out.println("Total Even : "+even);

        }

        if(str.equals("odd")){

            for(T value:element)

                if(Integer.parseInt(value.toString())%2!=0)

                    odd++;

            System.out.println("Total Odd : "+odd);

        }

    }

}
```

```

        if(str.equals("prime")){
            for(T value:element)
                if(isPrime(Integer.parseInt(value.toString()))
                    prime++;
            System.out.println("Total Prime : "+prime);
        }
        if(str.equals("palindrome")){
            for(T value:element){
                StringBuffer rev = new StringBuffer(value.toString());
                if(value.toString().equals(new String(rev.reverse())))
                    palin++;
            }
            System.out.println("Total Palindrome : "+palin);
        }
    }
}

public static void main(String[] args){
    Integer iarray[] = {45,70,12,84,38,151,29,30,19,11};
    count("even",iarray);
    count("odd",iarray);
    count("prime",iarray);
    count("palindrome",iarray);
}
}

```