OOPJ LAB ASSIGNMENT – 9

Name – Nishant Nahar

Roll No – 241551078

1. Write a Java program to demonstrate System.out, System.err, and System.in streams with appropriate console interaction.

```java
import java.util.Scanner;
class as_9_q_1 {
    public static void main(String[] args) {
        System.out.println("Nishant Nahar - 241551078");
        Scanner sc = new Scanner(System.in);
        System.out.println("Name:");
        String name = sc.nextLine();
        System.out.println("Name - " + name);
        System.err.println("Error Message Here !!");
    }}
```

OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_1.java
Nishant Nahar - 241551078
Name:
Nishant
Name - Nishant
Error Message Here !!
```

2. Write a program to read a single character using System.in.read() and display its ASCII value and character representation.

```java
import java.io.*;
class as_9_q_2 {
    public static void main(String[] args) throws IOException {
        System.out.println("Nishant Nahar - 241551078");
        System.out.println("Type one character:");
        int ch = System.in.read();
        System.out.println("ASCII Value: " + ch);
        System.out.println("Character: " + (char) ch);
    }}
```

OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_2.java
Nishant Nahar - 241551078
Type one character:
f
ASCII Value: 102
Character: f
```

3. Write a program to read multiple characters from System.in until newline and display them.

```java
import java.io.*;
class as_9_q_3 {
    public static void main(String[] args) throws IOException {
        System.out.println("Nishant Nahar - 241551078");
        System.out.println("Word Enter");
        int ch;
        while ((ch = System.in.read()) != '\n') {
            System.out.println((char) ch);
        }}
}
```

OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_3.java
Nishant Nahar - 241551078
Word Enter
nishant
n
i
s
h
a
n
t
```

4. Write a Java program to write a single byte value into a file using FileOutputStream and verify the stored character.

```java
import java.io.*;
public class as_9_q_4 {
    public static void main(String[] args) throws Exception {
        System.out.println("Nishant Nahar - 241551078");
        FileOutputStream ff = new
        FileOutputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_4.txt");
        ff.write(65);
        ff.close();
    }}
```

OUTPUT

```
1     ....A
```

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_4.java
Nishant Nahar - 241551078
```

5. Write a program to write a user-entered string into a file by converting it into a byte array using getBytes().

```java
import java.io.*;
import java.util.Scanner;
class as_9_q_5 {
    public static void main(String[] args) throws IOException {
        System.out.println("Nishant Nahar - 241551078");
        Scanner sc = new Scanner(System.in);
        System.out.println("Name - ");
        String grd = sc.nextLine();
        FileOutputStream grdd = new
        FileOutputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_5.txt");
        grdd.write(grd.getBytes());
        grdd.close();
    }}
```

OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_5.java
Nishant Nahar - 241551078
Name -
Nishant Nahar
```

```
1     Nishant Nahar
```

6. Write a Java program to append text to an existing file using FileOutputStream in append mode.

```java
import java.io.*;
import java.util.Scanner;
class as_9_q_6 {
    public static void main(String[] args) throws Exception {
```
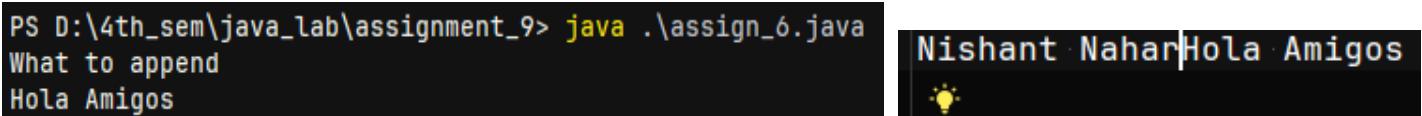
```
        System.out.println("Nishant Nahar - 241551078");
        Scanner sc = new Scanner(System.in);
        System.out.println("What to append");
        String d = sc.nextLine();
        FileOutputStream fos = new
        FileOutputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_5.txt", true);
        fos.write(d.getBytes());
        fos.close();
    }}
```

OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_6.java
What to append
Hola Amigos
```
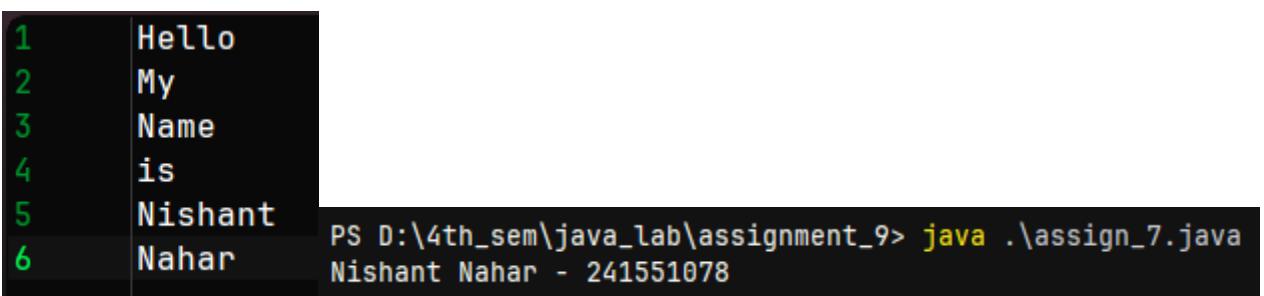
```
Nishant NaharHola Amigos
```

7. Write a program to write multiple lines into a file using FileOutputStream and proper newline characters.

```
import java.io.*;
class as_9_q_7 {
    public static void main(String[] args) throws IOException {
        System.out.println("Nishant Nahar - 241551078");
        FileOutputStream fos = new
        FileOutputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_7.txt");
        String text = "Hello\nMy\nName\nis\nNishant\nNahar";
        fos.write(text.getBytes());
        fos.close();
    }}
```

OUTPUT

```
1    Hello
2    My
3    Name
4    is
5    Nishant
6    Nahar
```

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_7.java
Nishant Nahar - 241551078
```

8. Write a Java program to read the first character from a file using FileInputStream and display it.

```
import java.io.*;
public class as_9_q_8 {
    public static void main(String[] args) throws Exception {
        System.out.println("Nishant Nahar - 241551078");
        FileInputStream n = new
        FileInputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_7.txt");
        int ch = n.read();
        if (ch != -1)  System.out.println("First character is: " + (char) ch);
        else   System.out.println("File is empty!");
        n.close();
    }}
```

OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_8.java
Nishant Nahar - 241551078
First character is: H
```

9. Write a program to read and display all characters from a file using FileInputStream until end-of-file (-1).

```java
import java.io.*;
class as_9_q_9 {
    public static void main(String[] args) throws IOException {
        System.out.println("Nishant Nahar - 241551078");
        FileInputStream reads = new
        FileInputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_5.txt");
        int ch;
        while ((ch = reads.read()) != -1) {
            System.out.print((char) ch);}
        reads.close();
    }}
```
OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_9.java
Nishant Nahar - 241551078
Nishant NaharHola Amigos
```

10. Write a Java program to count total characters present in a file using FileInputStream.

```java
import java.io.*;
class as_9_q_10 {
    public static void main(String[] args) throws Exception {
        System.out.println("Nishant Nahar - 241551078");
        FileInputStream fis = new
        FileInputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_7.txt");
        int ch;
        int count = 0;
        while ((ch = fis.read()) != -1) {
            count++;}
        fis.close();
        System.out.println("Total characters in file: " + count);
    }}
```
OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_10.java
Nishant Nahar - 241551078
Total characters in file: 30
```

11. Write a program to count number of vowels, consonants, digits, and special characters in a file.

```java
import java.io.*;
class as_9_q_11 {
    public static void main(String[] args) throws Exception {
        System.out.println("Nishant Nahar - 241551078");
        FileInputStream f = new
        FileInputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_7.txt");
        int ch, v = 0, c = 0, d = 0, s = 0;
        while ((ch = f.read()) != -1) {
            char x = (char) ch;
            if (x == 'a' || x == 'e' || x == 'i' || x == 'o' || x == 'u' ||
                x == 'A' || x == 'E' || x == 'I' || x == 'O' || x == 'U') {
                v++;
            } else if ((x >= 'a' && x <= 'z') || (x >= 'A' && x <= 'Z')) {
                c++;
            } else if (x >= '0' && x <= '9') {
                d++;
```

```
            } else {
                s++;
            }}
        f.close();
        System.out.println("Vowels : " + v);
        System.out.println("Cons   : " + c);
        System.out.println("Digits : " + d);
        System.out.println("Special : " + s);
    }}
```
OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_11.java
Nishant Nahar - 241551078
Vowels : 9
Cons  : 16
Digits : 0
Special : 5
```

12. Write a Java program to copy contents of one file into another using FileInputStream and FileOutputStream.

```
import java.io.*;
public class as_9_q_12 {
    public static void main(String[] args) throws Exception {
        System.out.println("Nishant Nahar - 241551078");
        FileInputStream f1 = new
        FileInputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_12.txt");
        FileOutputStream f2 = new
        FileOutputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_12_1.txt");
        int ch;
        while ((ch = f1.read()) != -1) {
            f2.write(ch);}
        f1.close();
        f2.close();
    }}
```
OUTPUT

```
1    Hello How are you??
```
--- assign_12.txt

```
1    Hello How are you??
```
--- assign_12_1.txt (COPY)

13. Write a program to merge contents of two files into a third file.

```
import java.io.*;
public class as_9_q_13 {
    public static void main(String[] args) throws Exception {
        System.out.println("Nishant Nahar - 241551078");
        FileInputStream f1 = new
        FileInputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_12.txt");
        FileInputStream f2 = new
        FileInputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_13_1.txt");
        FileOutputStream f3 = new
        FileOutputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_13.txt");
        int ch;
        while((ch = f1.read()) != -1){
            f3.write(ch);}
        while((ch = f2.read()) != -1){
```

```
            f3.write(ch);}
        f1.close(); f2.close(); f3.close();
    }}
```
OUTPUT

Merged --

14. Write a Java program to compare contents of two files and display whether they are identical
    or not.

```java
import java.io.*;
class as_9_q_14 {
    public static void main(String[] args) throws Exception {
        System.out.println("Nishant Nahar - 241551078");
        FileInputStream f1 = new
        FileInputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_12.txt");
        FileInputStream f2 = new
        FileInputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_12_1.txt");
        int ch1, ch2;
        boolean same = true;
        while(true){
            ch1 = f1.read();
            ch2 = f2.read();
            if(ch1 != ch2){
                same = false;
                break;}
            if(ch1 == -1) break;}
        f1.close();
        f2.close();
        if(same) System.out.println("Identical");
        else System.out.println("Different");
    }}
```
OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_14.java
Nishant Nahar - 241551078
Identical
```

15. Write a program to convert all lowercase characters in a file to uppercase and save into
    another file.

```java
import java.io.*;
class as_9_q_15 {
    public static void main(String[] args) throws Exception {
        System.out.println("Nishant Nahar - 241551078");
        FileInputStream f1 = new
        FileInputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_12.txt");
        FileOutputStream f2 = new
        FileOutputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_15.txt");
        int ch;
        while((ch = f1.read()) != -1){
            f2.write(Character.toUpperCase((char) ch));}
        f1.close();f2.close();
    }
}
```

OUTPUT

Lower --   Upper --

16. Write a Java program to count number of lines and words in a text file.

```java
import java.io.*;
public class as_9_q_16 {
    public static void main(String[] args) throws Exception {
        System.out.println("Nishant Nahar - 241551078");
        FileInputStream f = new
        FileInputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_7.txt");
        int ch;
        int lines = 0, words = 0;
        boolean i = false;
        while ((ch = f.read()) != -1) {
            if (ch == '\n') lines++;
            if (ch == ' ' || ch == '\n' || ch == '\t') {
                i = false;
            } else if (!i) {
                words++;
                i = true;}}
        f.close();
        System.out.println("Lines : " + lines);
        System.out.println("Words : " + words);
    }}
```

OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_16.java
Nishant Nahar - 241551078
Lines : 5
Words : 6
```

17. Write a program to replace a specific word in a file with another word entered by the user.

```java
import java.io.*;
import java.util.Scanner;
class as_9_q_17 {
    public static void main(String[] args) throws Exception {
        System.out.println("Nishant Nahar - 241551078");
        Scanner sc = new Scanner(System.in);
        System.out.print("replace word ");
        String oldW = sc.nextLine();
        System.out.print("new word");
        String newW = sc.nextLine();
        FileInputStream f = new
        FileInputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_12.txt");
        int ch;
        String content = "";
        while ((ch = f.read()) != -1) {
            content += (char) ch;}
        f.close();
        content = content.replace(oldW, newW);
        FileOutputStream out = new
        FileOutputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_17.txt");
        out.write(content.getBytes());
        out.close();
    }}
```

OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_17.java
Nishant Nahar - 241551078
replace word Hello
new wordhel
```

```
1      hel How are you??
```

18. Write a Java program that accepts a filename from user and checks whether the file exists, is readable, and writable.

```java
import java.io.*;
import java.util.Scanner;
public class as_9_q_18 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Nishant Nahar - 241551078");
        System.out.print("File");
        String name = sc.nextLine();
        File f = new File("D:\\4th_sem\\java_lab\\assignment_9" + name);
        if (f.exists()) System.out.println("File is present");
        else System.out.println("File is not present");
        if (f.canRead()) System.out.println("File can be read");
        else System.out.println("File can't be read");
        if (f.canWrite()) System.out.println("File can be written");
        else System.out.println("File can't be written");
    }}
```

OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_18.java
Nishant Nahar - 241551078
Fileassign_12.txt
File is present
File can be read
File can be written

PS D:\4th_sem\java_lab\assignment_9> java .\assign_18.java
Nishant Nahar - 241551078
Fileassign_1.txt
File is not present
File can't be read
File can't be written
```

19. Write a program to handle FileNotFoundException while attempting to open a non-existing file.

```java
import java.io.*;
public class as_9_q_19 {
    public static void main(String[] args) {
        System.out.println("Nishant Nahar - 241551078");
        try {FileInputStream f = new
                FileInputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_1.txt");
            f.close();
        } catch (FileNotFoundException e) {System.out.println(e);
        } catch (IOException e) {System.out.println(e);
        }}}
```

OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_19.java
Nishant Nahar - 241551078
java.io.FileNotFoundException: D:\4th_sem\java_lab\assignment_9\assign_1.txt (The system cannot find the file specified)
```

20. Write a Java program to demonstrate difference between InputStream and OutputStream using practical file operations.

```java
import java.io.*;
public class as_9_q_20 {
    public static void main(String[] args) throws Exception {
        System.out.println("Nishant Nahar - 241551078");
        FileOutputStream out = new
        FileOutputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_20.txt");
        out.write("My Name is Nishant Nahar".getBytes());
        out.close();
        System.out.println("Data to be written in file");
        FileInputStream in = new
        FileInputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_20.txt");
        int ch;
        System.out.println("Data read from the file");
        while ((ch = in.read()) != -1) {
            System.out.print((char) ch);}
        in.close();
    }}
```

OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_20.java
Nishant Nahar - 241551078
Data to be written in file
Data read from the file
My Name is Nishant Nahar
```

21. Write a program to write formatted student details into a file using PrintWriter class.

```java
import java.io.*;
public class as_9_q_21 {
    public static void main(String[] args) throws Exception {
        PrintWriter pw = new
        PrintWriter("D:\\4th_sem\\java_lab\\assignment_9\\assign_21.txt");
        pw.println("Name   : Nishant Nahar");
        pw.println("Roll   : 241551078");
        pw.println("Branch : CSE");
        pw.println("Marks  : 95/100");
        pw.close();
    }}
```

OUTPUT

```
1    Name   : Nishant Nahar
2    Roll   : 241551078
3    Branch : CSE
4    Marks  : 95/100
5
```

22. Write a Java program to read file data and display both byte value and corresponding character for each byte.

```java
import java.io.*;
class as_9_q_22 {
    public static void main(String[] args) throws Exception {
        System.out.println("Nishant Nahar - 241551078");
        FileInputStream f = new
        FileInputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_22.txt");
        int ch;
        while ((ch = f.read()) != -1) {
            System.out.println("Byte: " + ch + "  Character: " + (char) ch);}
        f.close();
    }}
```

OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_22.java
Nishant Nahar - 241551078
Byte: 72  Character: H
Byte: 101  Character: e
Byte: 108  Character: l
Byte: 108  Character: l
Byte: 111  Character: o
```

23. Write a program to create a menu-driven file management system allowing write, read, append, and exit operations.

```java
import java.io.*;
import java.util.Scanner;
public class as_9_q_23 {
    public static void main(String[] args) throws Exception {
        System.out.println("Nishant Nahar - 241551078");
        Scanner sc = new Scanner(System.in);
        int ch;
        String path = "D:\\4th_sem\\java_lab\\assignment_9\\assign_23.txt";
        do {System.out.println("\n1.Write  2.Append  3.Read  4.Exit");
            ch = sc.nextInt();
            sc.nextLine();
            switch (ch) {
                case 1:
                    System.out.print("Enter text: ");
                    String s1 = sc.nextLine();
                    FileOutputStream f1 = new FileOutputStream(path);
                    f1.write((s1 + "\n").getBytes());
                    f1.close();
                    break;

                case 2:
                    System.out.print("Enter text: ");
                    String s2 = sc.nextLine();
                    FileOutputStream f2 = new FileOutputStream(path, true);
                    f2.write((s2 + "\n").getBytes());
                    f2.close();
                    break;

                case 3:
                    FileInputStream f3 = new FileInputStream(path);
                    int c;
                    while ((c = f3.read()) != -1)
                        System.out.print((char) c);
                    f3.close();
                    System.out.println();
                    break;

                case 4:
                    System.out.println("Exit");
                    break;

                default:
                    System.out.println("Invalid Choice");
            }

        } while (ch != 4);
    }
}
```

OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_23.java
Nishant Nahar - 241551078

1.Write  2.Append  3.Read  4.Exit
1
Enter text: Heelo

1.Write  2.Append  3.Read  4.Exit
2
Enter text: Hola

1.Write  2.Append  3.Read  4.Exit
3
Heelo
Hola


1.Write  2.Append  3.Read  4.Exit
4
Exit
```

24. Write a Java program to store 10 integers entered by the user into a file and then read them back to compute sum and average.

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

public class as_9_q_24 {
    public static void main(String[] args) throws Exception {
        System.out.println("Nishant Nahar - 241551078");
        Scanner sc = new Scanner(System.in);
        FileOutputStream out = new
        FileOutputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_24.txt");
        System.out.print("Enter number: ");
        for (int i = 1; i <= 10; i++) {
            int n = sc.nextInt();
            out.write((n + " ").getBytes());}
        out.close();
        FileInputStream in = new
        FileInputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_24.txt");
        Scanner s2 = new Scanner(in);
        int sum = 0, count = 0;
        while (s2.hasNextInt()) {
            sum += s2.nextInt();
            count++;}
        in.close();
        System.out.println("Sum = " + sum);
        System.out.println("Average = " + (sum / (double) count));
    }}
```

OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_24.java
Nishant Nahar - 241551078
Enter number: 2 8 9 6 5 9 8 6 5 8
Sum = 66
Average = 6.6
```

25. Write a program to read a text file and display only those lines containing a specific keyword.

```java
import java.io.*;
import java.util.Scanner;
public class as_9_q_25 {
    public static void main(String[] args) throws Exception {
        System.out.println("Nishant Nahar - 241551078");
```

```
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter keyword: ");
        String key = sc.nextLine();
        Scanner file = new Scanner(new \
        File("D:\\4th_sem\\java_lab\\assignment_9\\assign_7.txt"));
        boolean found = false;
        while (file.hasNextLine()) {
            String line = file.nextLine();
            if (line.contains(key)) {
                System.out.println("Found");
                System.out.println(line);
                found = true;}}
        if (!found) {System.out.println("Not found");}
        file.close();
    }}
```

OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_25.java
Nishant Nahar - 241551078
Enter keyword: Niii
Not found
```

26. Write a Java program to delete a file after checking its existence anddisplaying appropriate
    message.

```
import java.io.*;
public class as_9_q_26 {
    public static void main(String[] args) {
        System.out.println("Nishant Nahar - 241551078");
        File f = new File("D:\\4th_sem\\java_lab\\assignment_9\\assign_26.txt");
        if (f.exists()) {
            if (f.delete()) System.out.println("File deleted successfully");
            else System.out.println("File cannot be deleted");
        } else { System.out.println("File does not exist");
        }}}
```

OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_26.java
Nishant Nahar - 241551078
File deleted successfully
```

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_26.java
Nishant Nahar - 241551078
File does not exist
```

27. Write a program to create a file and write current date and time into it using PrintWriter.

```
import java.io.*;
import java.util.Date;
class as_9_q_27 {
    public static void main(String[] args) throws Exception {
        PrintWriter pw = new
        PrintWriter("D:\\4th_sem\\java_lab\\assignment_9\\assign_27.txt");
        Date d = new Date();
        pw.println("Current Date and Time:");
        pw.println(d);
        pw.close();
        System.out.println("Date and Time written successfully ✓");
    }
}
```

OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_27.java
Date and Time written successfully
```

```
Current Date and Time:
Tue Feb 24 23:02:20 IST 2026
```

28. Write a Java program to demonstrate buffering concept by reading file data byte-by-byte and printing performance difference.

```java
import java.io.*;
public class as_9_q_28 {
    public static void main(String[] args) throws Exception {
        System.out.println("Nishant Nahar - 241551078");
        long start1 = System.currentTimeMillis();
        FileInputStream f1 = new
         FileInputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_28.txt");
        while (f1.read() != -1) {}
        f1.close();
        long end1 = System.currentTimeMillis();
        long start2 = System.currentTimeMillis();
        BufferedInputStream f2 = new BufferedInputStream(new
         FileInputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_28.txt"));
        while (f2.read() != -1) {}
        f2.close();
        long end2 = System.currentTimeMillis();
        System.out.println("Without Buffer Time: " + (end1 - start1) + " ms");
        System.out.println("With Buffer Time: " + (end2 - start2) + " ms");
    }}
```
OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_28.java
Nishant Nahar - 241551078
Without Buffer Time: 1 ms
With Buffer Time: 0 ms
```

29. Write a program to encrypt file content by shifting each character by +1 ASCII value and store in another file.

```java
import java.io.*;
class as_9_q_29 {
    public static void main(String[] args) throws Exception {
        System.out.println("Nishant Nahar - 241551078");
        FileInputStream in = new
        FileInputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_29.txt");
        String data = "";
        int ch;
        while ((ch = in.read()) != -1) {
            data += (char) (ch + 1);}
        in.close();
        FileOutputStream out = new
        FileOutputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_29.txt", true);
        out.write(("\n" + data).getBytes());
        out.close();
        System.out.println("Encrypted data appended");
    }}
```
OUTPUT

```
1    Abcdefg#$1
2    Bcdefgh$%2
```

30. Write a Java program to decrypt the previously encrypted file and restore original content.

```java
import java.io.*;
public class as_9_q_30 {
    public static void main(String[] args) throws Exception {
        System.out.println("Nishant Nahar - 241551078");
        FileInputStream in = new
        FileInputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_29.txt");
        FileOutputStream out = new
        FileOutputStream("D:\\4th_sem\\java_lab\\assignment_9\\assign_30.txt");
        int ch;
        while ((ch = in.read()) != -1) {
            out.write(ch - 1);}
        in.close();
        out.close();
        System.out.println("Decrypted successfully ✓");
    }}
```

OUTPUT

```
PS D:\4th_sem\java_lab\assignment_9> java .\assign_30.java
Nishant Nahar - 241551078
Decrypted successfully
```

```
@abcdef"#0— Abcdefg#$1
```