ACPCE
Where knowledge is second nature

Jawahar Education Society's
A. C. Patil College of Engineering, Kharghar
Navi Mumbai 410210

Student Name: Chetan Ingale

Course Name: C.S.E. (IoT CS BC)

Year: S.E.

Roll No.: 17

PRN No.: 221111030

Course code: CSL304

Semester: 3

Experiment Evaluation Sheet

Experiment No.: 11

Experiment Name:
Program on Multithreading

Sr No.	Evaluation Criteria	Marks (Out of 9)	Performance Date	Correction Date and Signature of Instructor
1	Experiment Performance			
2	Journal Performance			
3	Punctuality			
Total				

Aim : Program on Multithreading

Software required : Java, Javac.

Theory :

Multithreading in Java :-
Multithreading in Java is a process of executing multiple threads simultaneously.

A thread is a lightweight sub-process, the smallest unit of processing. Multiprocessing and multithreading, both are used to achieve multitasking.

However, we use multithreading than multiprocessing because threads use a shared memory area. They don't allocate separate memory area so saves memory, and context-switching between the threads takes less time than process.

Java Multithreading is mostly used in games, animation, etc.

Advantages of Java Multithreading:
1) It doesn't block the user because threads are independent and you can perform multiple operations at the same time.

2) You can perform many operations together, so it saves time.

3) Threads are independent, so it doesn't affect other threads if an exception occurs in a single thread.

Code 11 :

```
class MultithreadingDemo extends Thread {
    public void run()
    {
        try {
            // Displaying the thread that is running
            System.out.println(
                "Thread " + Thread.currentThread().getId()
                + " is running");
        }
        catch (Exception e) {
            // Throwing an exception
            System.out.println("Exception is caught");
        }
    }
}
public class Multithread {
    public static void main(String[] args)
    {
        int n = 8; // Number of threads
        for (int i = 0; i < n; i++) {
            MultithreadingDemo object= new MultithreadingDemo();
            object.start();
        }
    }
}
```

Output 11 :

```
student@csiot-ThinkCentre-M70s:~/CHETAN_I_007/OOPs/Exp11$ javac Multithread.java
student@csiot-ThinkCentre-M70s:~/CHETAN_I_007/OOPs/Exp11$ java Multithread
Thread 13 is running
Thread 17 is running
Thread 12 is running
Thread 14 is running
Thread 18 is running
Thread 19 is running
Thread 16 is running
Thread 15 is running
```

Conclusion :

With this experiments we learn how to implement multi-threading in java programming language.