

LAB # 4

Start, Sleep and Stop methods of multithreading

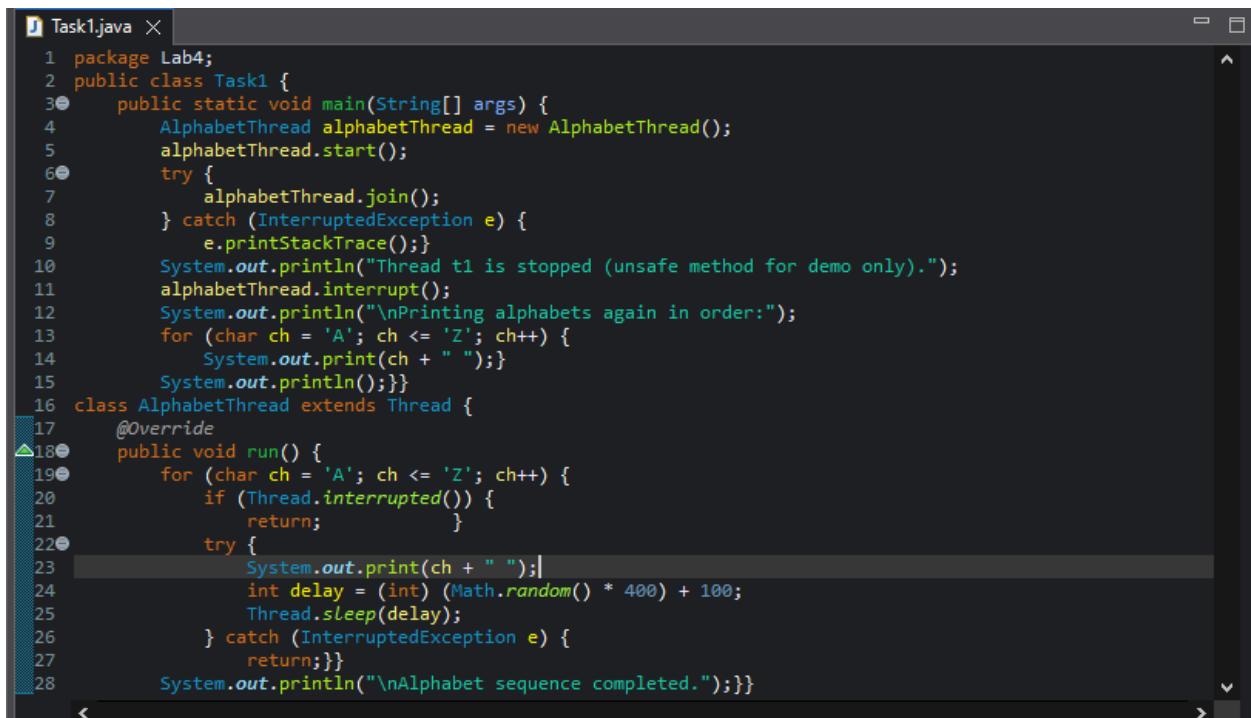
OBJECTIVE:

Understanding concurrency by implementing start, sleep and stop thread functions.

Lab Task:

By using start, stop and sleep methods of threading, print alphabets of English from A-Z. (Hint: use math.random method for getting random numbers and then convert them into characters, print 26 characters under run method loop with fluctuating visualization through sleep method).

Code:-

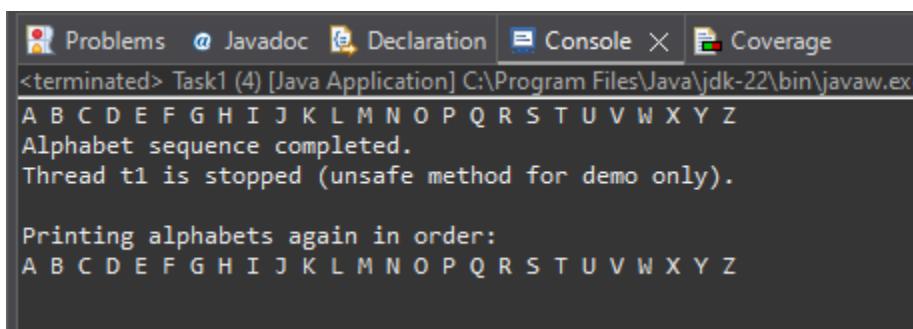


```

1 package Lab4;
2 public class Task1 {
3     public static void main(String[] args) {
4         AlphabetThread alphabetThread = new AlphabetThread();
5         alphabetThread.start();
6         try {
7             alphabetThread.join();
8         } catch (InterruptedException e) {
9             e.printStackTrace();
10        System.out.println("Thread t1 is stopped (unsafe method for demo only).");
11        alphabetThread.interrupt();
12        System.out.println("\nPrinting alphabets again in order:");
13        for (char ch = 'A'; ch <= 'Z'; ch++) {
14            System.out.print(ch + " ");
15        }
16    }
17    class AlphabetThread extends Thread {
18        @Override
19        public void run() {
20            for (char ch = 'A'; ch <= 'Z'; ch++) {
21                if (Thread.interrupted()) {
22                    return;
23                }
24                try {
25                    System.out.print(ch + " ");
26                    int delay = (int) (Math.random() * 400) + 100;
27                    Thread.sleep(delay);
28                } catch (InterruptedException e) {
29                    return;
30                }
31            }
32            System.out.println("\nAlphabet sequence completed.");
33        }
34    }
35 }

```

Output:-



```

Problems @ Javadoc Declaration Console X Coverage
<terminated> Task1 (4) [Java Application] C:\Program Files\Java\jdk-22\bin\javaw.exe
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
Alphabet sequence completed.
Thread t1 is stopped (unsafe method for demo only).

Printing alphabets again in order:
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

```