

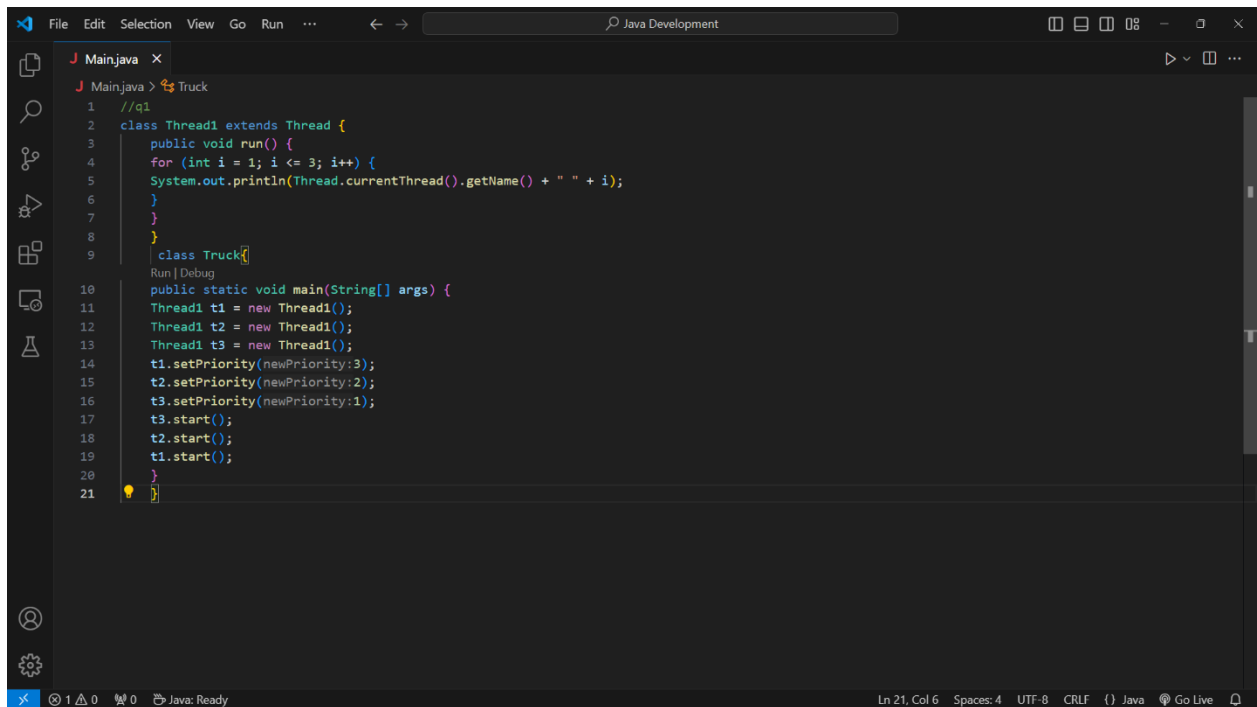
**SUBMITTED BY: -**

**KANISHK**

**2205130**

**CSE-37**

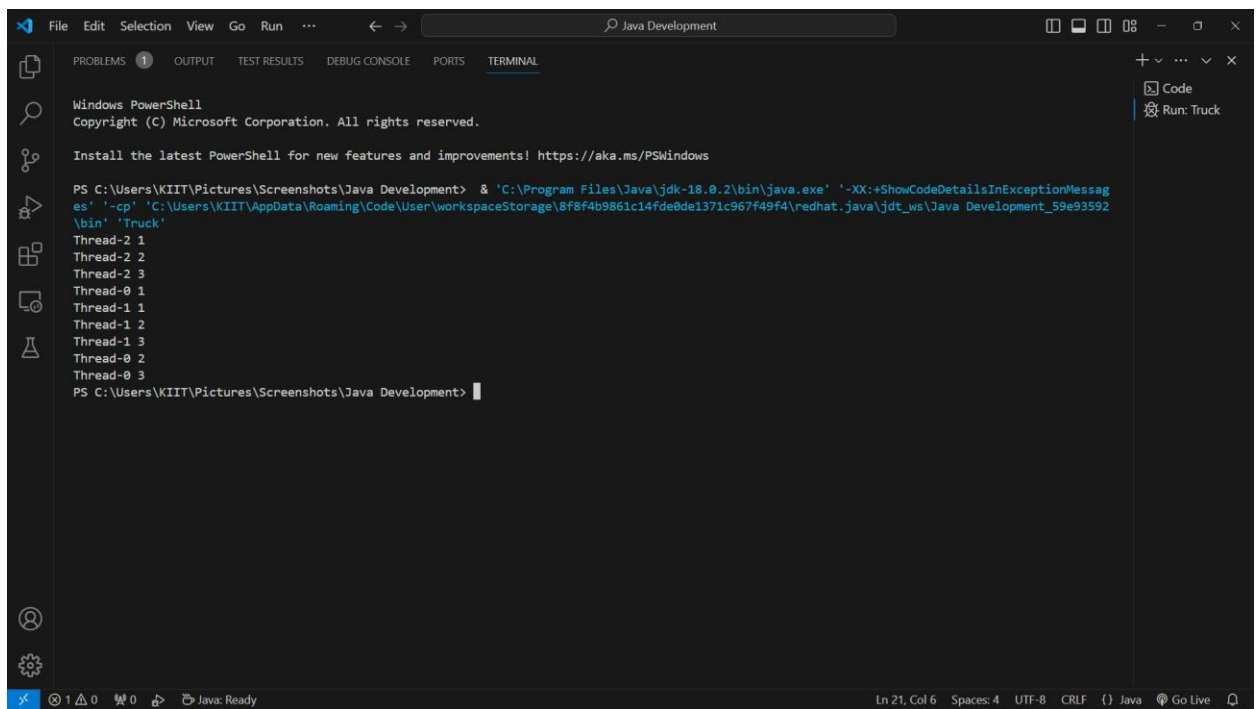
## **Q1-** . Thread Priority



The screenshot shows an IDE window titled 'Java Development'. The editor displays a Java file named 'Main.java'. The code defines a 'Thread1' class that extends 'Thread' and implements the 'run()' method. The 'run()' method contains a loop that prints the thread's name and a counter 'i' (from 1 to 3). A 'Truck' class is also defined, which contains a 'main' method. In the 'main' method, three 'Thread1' objects are created and named 't1', 't2', and 't3'. Their priorities are set to 3, 2, and 1 respectively. Then, they are started in the order 't3', 't2', and 't1'.

```
1 //q1
2 class Thread1 extends Thread {
3     public void run() {
4         for (int i = 1; i <= 3; i++) {
5             System.out.println(Thread.currentThread().getName() + " " + i);
6         }
7     }
8 }
9 class Truck{
10     Run | Debug
11     public static void main(String[] args) {
12         Thread1 t1 = new Thread1();
13         Thread1 t2 = new Thread1();
14         Thread1 t3 = new Thread1();
15         t1.setPriority(newPriority:3);
16         t2.setPriority(newPriority:2);
17         t3.setPriority(newPriority:1);
18         t3.start();
19         t2.start();
20         t1.start();
21     }
22 }
```

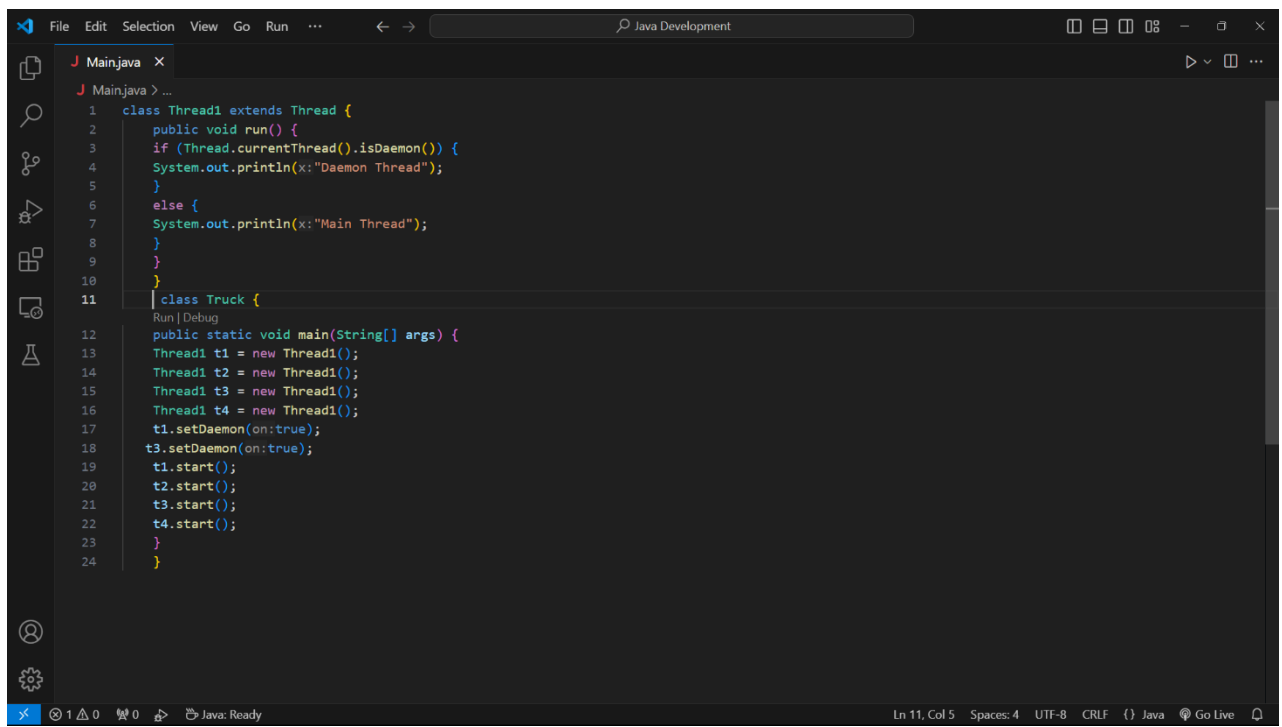
## **OUTPUT: -**



The screenshot shows the 'TERMINAL' tab of the IDE. It displays the output of the Java program. The output shows the thread names and their corresponding 'i' values, printed in the order of their execution: Thread-2, Thread-1, and Thread-0. The output is as follows:

```
Thread-2 1
Thread-2 2
Thread-2 3
Thread-0 1
Thread-1 1
Thread-1 2
Thread-1 3
Thread-0 2
Thread-0 3
PS C:\Users\KIIT\Pictures\Screenshots\Java Development>
```

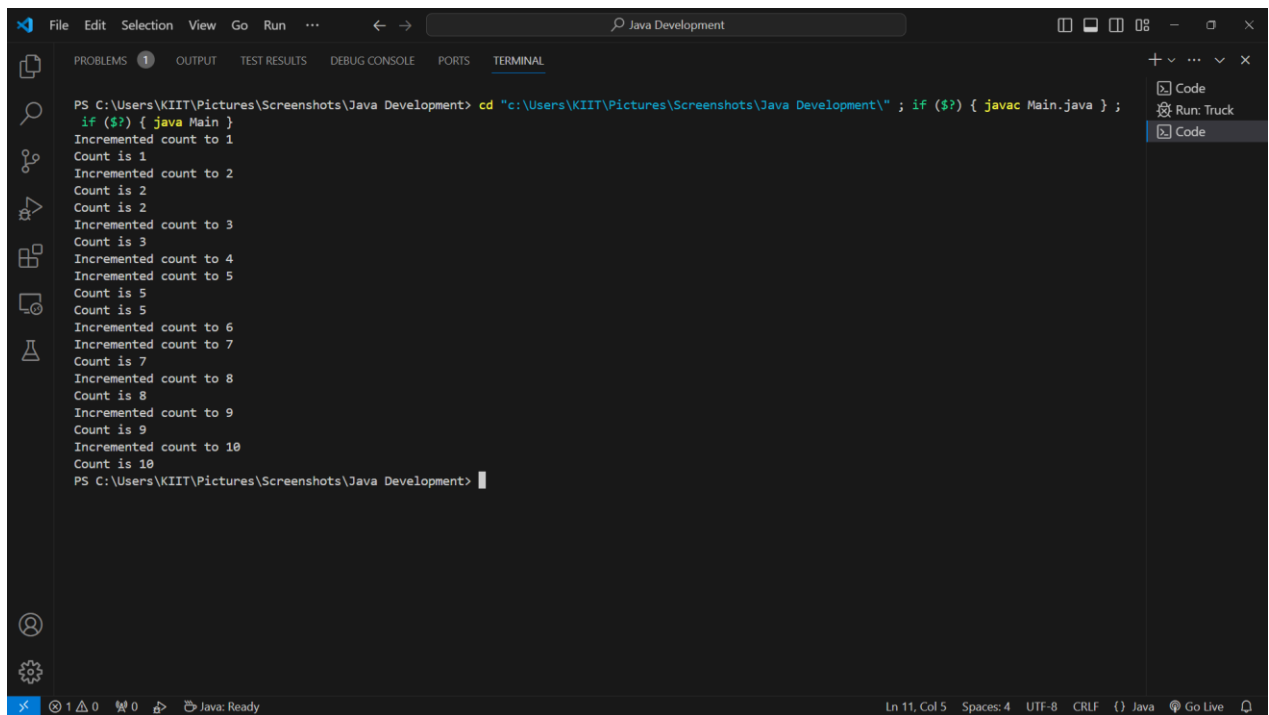
## Q2: - Daemon Thread



The screenshot shows an IDE window titled 'Java Development' with a file named 'Main.java'. The code defines a 'Thread1' class that extends 'Thread'. The 'run()' method checks if the current thread is a daemon thread using 'Thread.currentThread().isDaemon()'. If it is, it prints 'Daemon Thread'; otherwise, it prints 'Main Thread'. A 'Truck' class is also defined, which contains a 'main' method. In the 'main' method, four 'Thread1' objects are created and named 't1' through 't4'. 't1' is set as a daemon thread using 't1.setDaemon(true)', while 't3' is set as a non-daemon thread using 't3.setDaemon(false)'. All four threads are then started with 'start()'.

```
1 class Thread1 extends Thread {
2     public void run() {
3         if (Thread.currentThread().isDaemon()) {
4             System.out.println(x:"Daemon Thread");
5         }
6     }
7     else {
8         System.out.println(x:"Main Thread");
9     }
10 }
11
12 class Truck {
13     Run | Debug
14     public static void main(String[] args) {
15         Thread1 t1 = new Thread1();
16         Thread1 t2 = new Thread1();
17         Thread1 t3 = new Thread1();
18         Thread1 t4 = new Thread1();
19         t1.setDaemon(true);
20         t3.setDaemon(false);
21         t1.start();
22         t2.start();
23         t3.start();
24         t4.start();
25     }
26 }
```

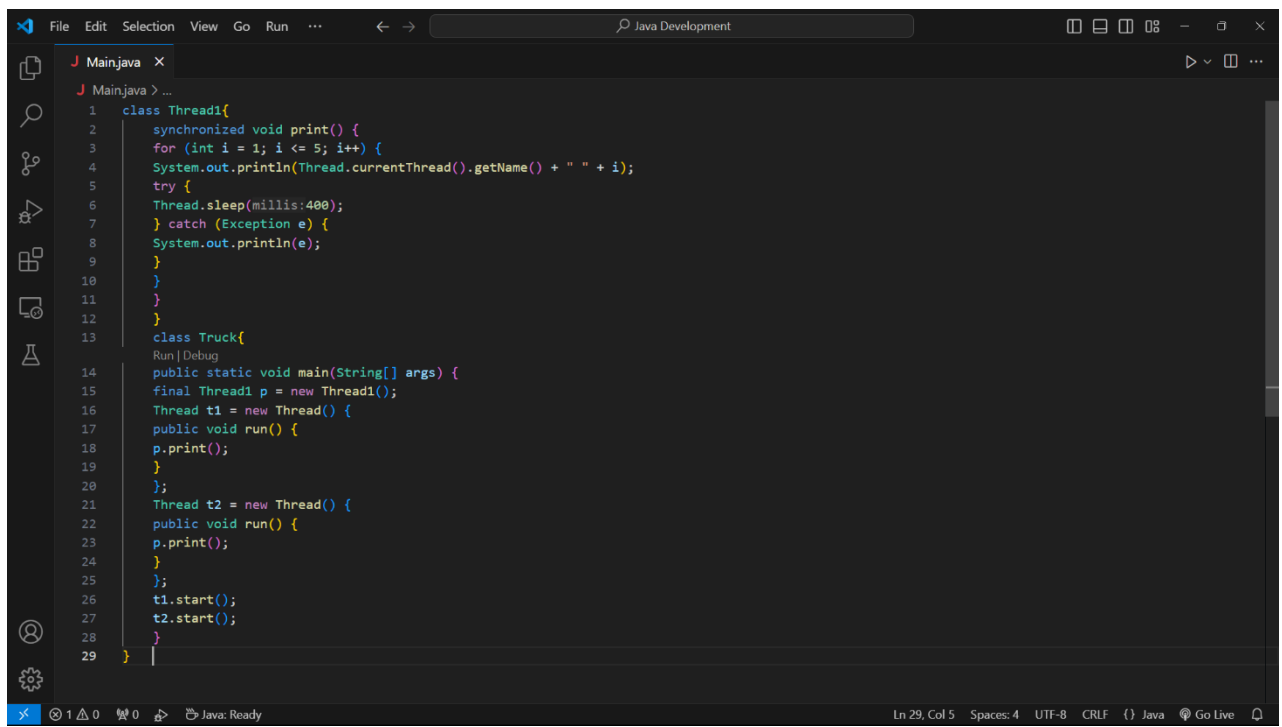
## OUTPUT: -



The screenshot shows the 'TERMINAL' tab of the IDE. It displays the command prompt output for running the 'Main.java' file. The output shows that the program successfully creates and starts four threads. The first thread, 't1', is a daemon thread and prints 'Incremented count to 1' through 'Incremented count to 10'. The other three threads, 't2', 't3', and 't4', are non-daemon threads and print 'Count is 1' through 'Count is 10'.

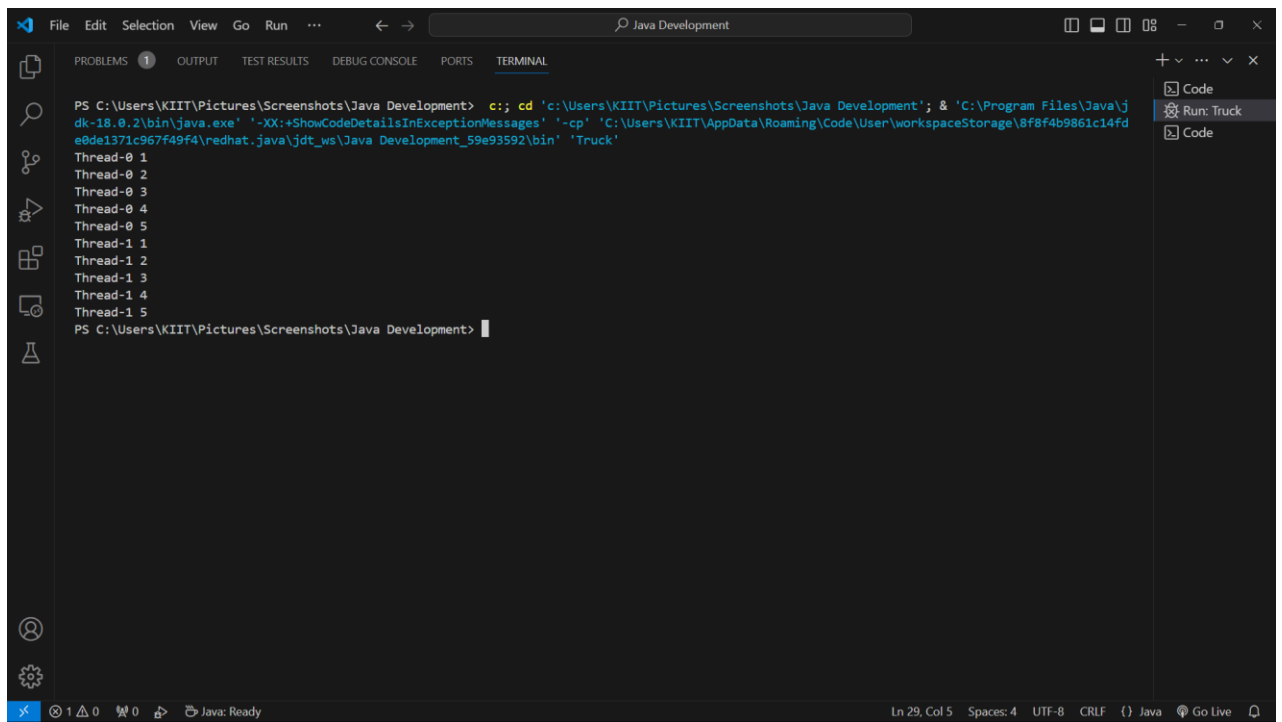
```
PS C:\Users\KIIT\Pictures\Screenshots\Java Development> cd "c:\Users\KIIT\Pictures\Screenshots\Java Development\" ; if ($?) { javac Main.java } ;
if ($?) { java Main }
Incremented count to 1
Count is 1
Incremented count to 2
Count is 2
Count is 2
Incremented count to 3
Count is 3
Incremented count to 4
Incremented count to 5
Count is 5
Count is 5
Incremented count to 6
Incremented count to 7
Count is 7
Incremented count to 8
Count is 8
Incremented count to 9
Count is 9
Incremented count to 10
Count is 10
PS C:\Users\KIIT\Pictures\Screenshots\Java Development>
```

### Q3: - Synchronized with anonymous



```
1 class Thread1{
2     synchronized void print() {
3         for (int i = 1; i <= 5; i++) {
4             System.out.println(Thread.currentThread().getName() + " " + i);
5             try {
6                 Thread.sleep(400);
7             } catch (Exception e) {
8                 System.out.println(e);
9             }
10        }
11    }
12 }
13 class Truck{
14     Run | Debug
15     public static void main(String[] args) {
16         final Thread1 p = new Thread1();
17         Thread t1 = new Thread() {
18             public void run() {
19                 p.print();
20             }
21         };
22         Thread t2 = new Thread() {
23             public void run() {
24                 p.print();
25             }
26         };
27         t1.start();
28         t2.start();
29     }
```

### OUTPUT: -



```
PS C:\Users\KIIT\Pictures\Screenshots\Java Development> c:: cd 'c:\Users\KIIT\Pictures\Screenshots\Java Development'; & 'C:\Program Files\Java\jdk-18.0.2\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\KIIT\AppData\Roaming\Code\User\workspaceStorage\8f8f4b9861c14fd e0de1371c967f49f4\redhat.java\jdt_ws\Java_Development_59e93592\bin' 'Truck'
Thread-0 1
Thread-0 2
Thread-0 3
Thread-0 4
Thread-0 5
Thread-1 1
Thread-1 2
Thread-1 3
Thread-1 4
Thread-1 5
PS C:\Users\KIIT\Pictures\Screenshots\Java Development>
```