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Section : BSCS 5

Acp

Lab task 9

Task 1

Code :

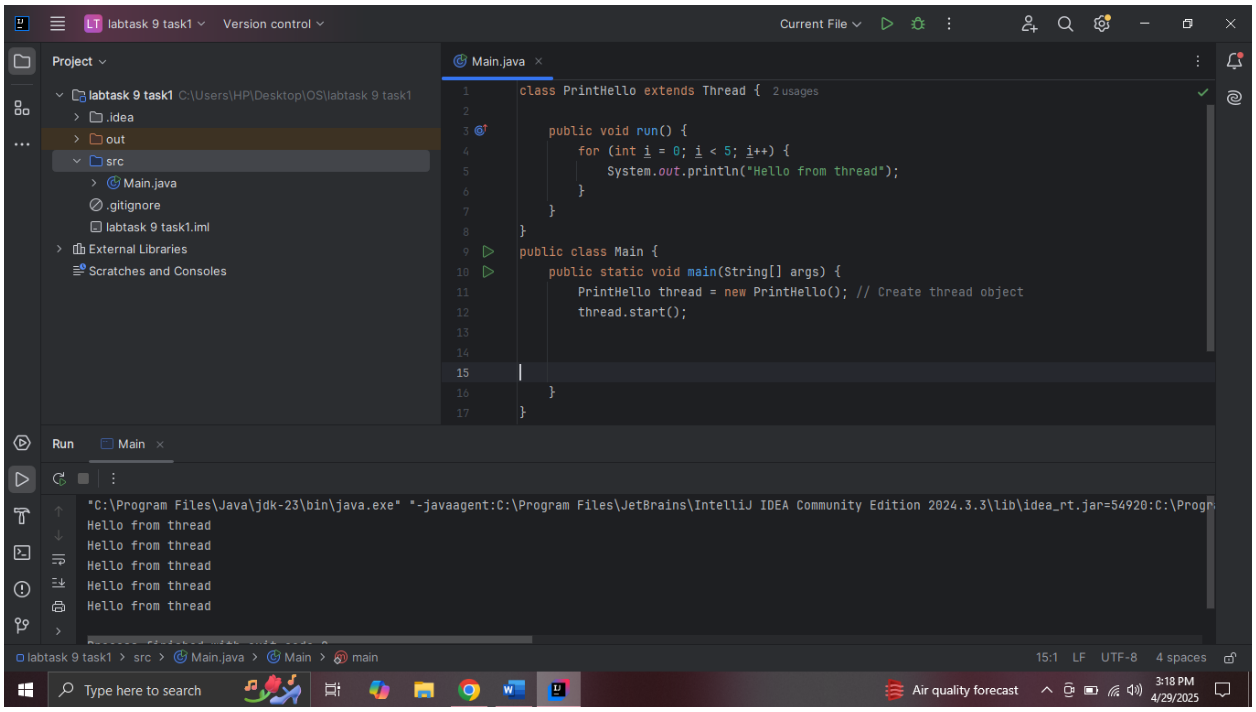
```
class PrintHello extends Thread {

    public void run() {
        for (int i = 0; i < 5; i++) {
            System.out.println("Hello from thread");
        }
    }
}
public class Main {
    public static void main(String[] args) {
        PrintHello thread = new PrintHello(); // Create thread object
        thread.start();



    }
}
```

output screenshot :



```java
class PrintHello extends Thread {

    public void run() {
        for (int i = 0; i < 5; i++) {
            System.out.println("Hello from thread");
        }
    }
}
public class Main {
    public static void main(String[] args) {
        PrintHello thread = new PrintHello(); // Create thread object
        thread.start();



    }
}
```

```
"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.3.3\lib\idea_rt.jar=54920:C:\Progr
Hello from thread
Hello from thread
Hello from thread
Hello from thread
Hello from thread
```

## Task 2

## Code :

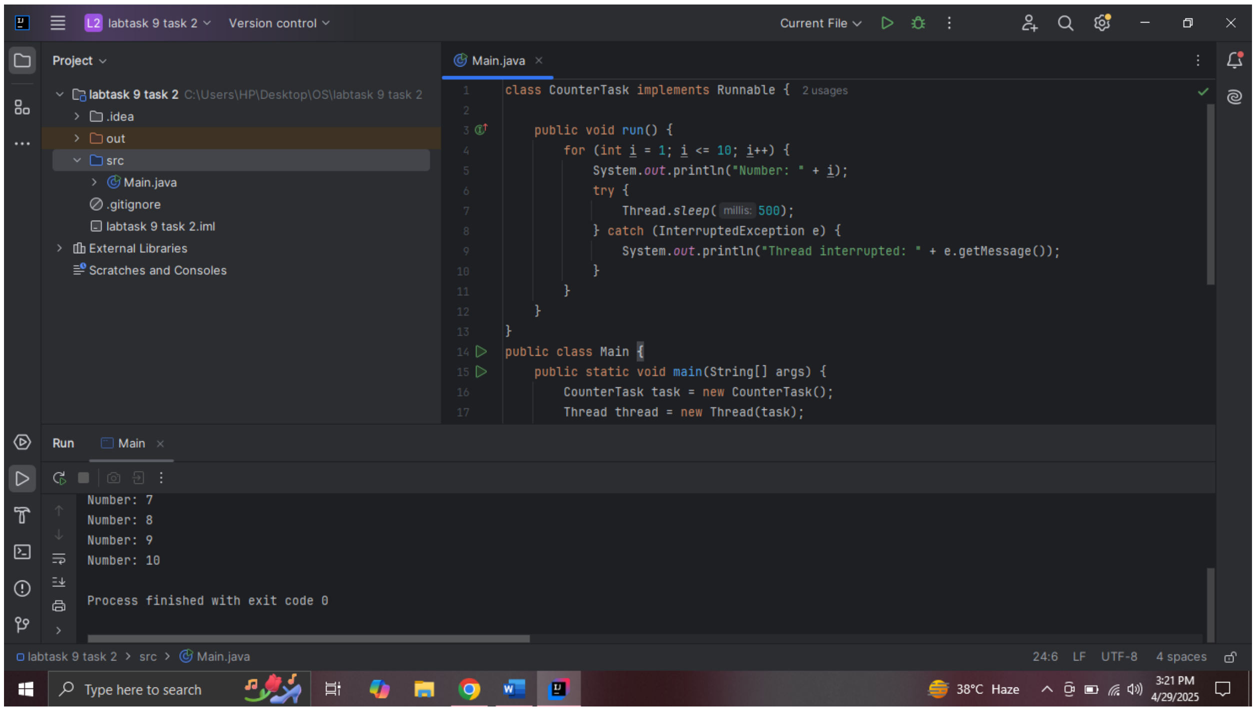
```java
class CounterTask implements Runnable {

    public void run() {
        for (int i = 1; i <= 10; i++) {
            System.out.println("Number: " + i);
            try {
                Thread.sleep(500);
            } catch (InterruptedException e) {
                System.out.println("Thread interrupted: " + e.getMessage());
            }
        }
    }
}
public class Main {
    public static void main(String[] args) {
        CounterTask task = new CounterTask();
        Thread thread = new Thread(task);
        thread.start();
    }




    }
```

## output :



```java
class CounterTask implements Runnable {  2 usages

    public void run() {
        for (int i = 1; i <= 10; i++) {
            System.out.println("Number: " + i);
            try {
                Thread.sleep( millis: 500);
            } catch (InterruptedException e) {
                System.out.println("Thread interrupted: " + e.getMessage());
            }
        }
    }
}
public class Main {
    public static void main(String[] args) {
        CounterTask task = new CounterTask();
        Thread thread = new Thread(task);
```

```
Number: 7
Number: 8
Number: 9
Number: 10

Process finished with exit code 0
```

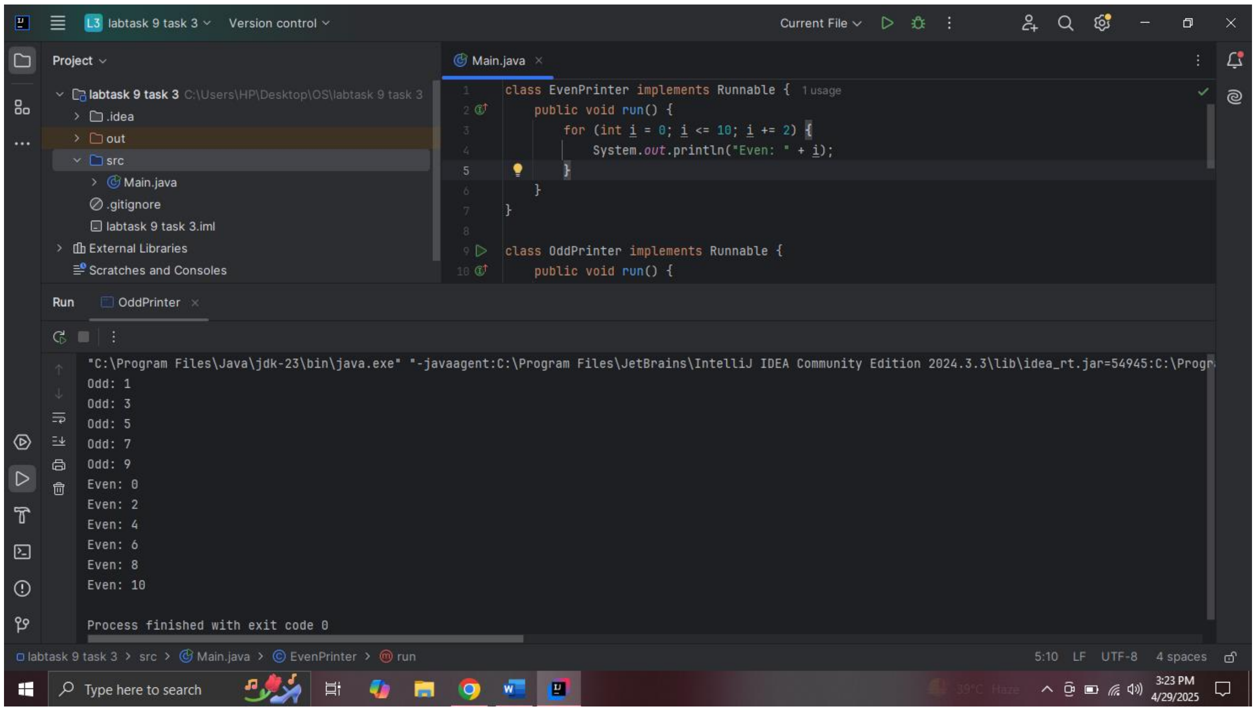
## Task 3

```java
class EvenPrinter implements Runnable {
    public void run() {
        for (int i = 0; i <= 10; i += 2) {
            System.out.println("Even: " + i);
        }
    }
}

class OddPrinter implements Runnable {
    public void run() {
        for (int i = 1; i < 10; i += 2) {
            System.out.println("Odd: " + i);
        }
    }

    public static void main(String[] args) {
        Thread evenThread = new Thread(new EvenPrinter());
        Thread oddThread = new Thread(new OddPrinter());
        evenThread.start();
        oddThread.start();
    }
}
```

output screenshot :



```java
class EvenPrinter implements Runnable {
    public void run() {
        for (int i = 0; i <= 10; i += 2) {
            System.out.println("Even: " + i);
        }
    }
}

class OddPrinter implements Runnable {
    public void run() {
```

```
"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.3.3\lib\idea_rt.jar=54945:C:\Progr
Odd: 1
Odd: 3
Odd: 5
Odd: 7
Odd: 9
Even: 0
Even: 2
Even: 4
Even: 6
Even: 8
Even: 10

Process finished with exit code 0
```

## Task 4

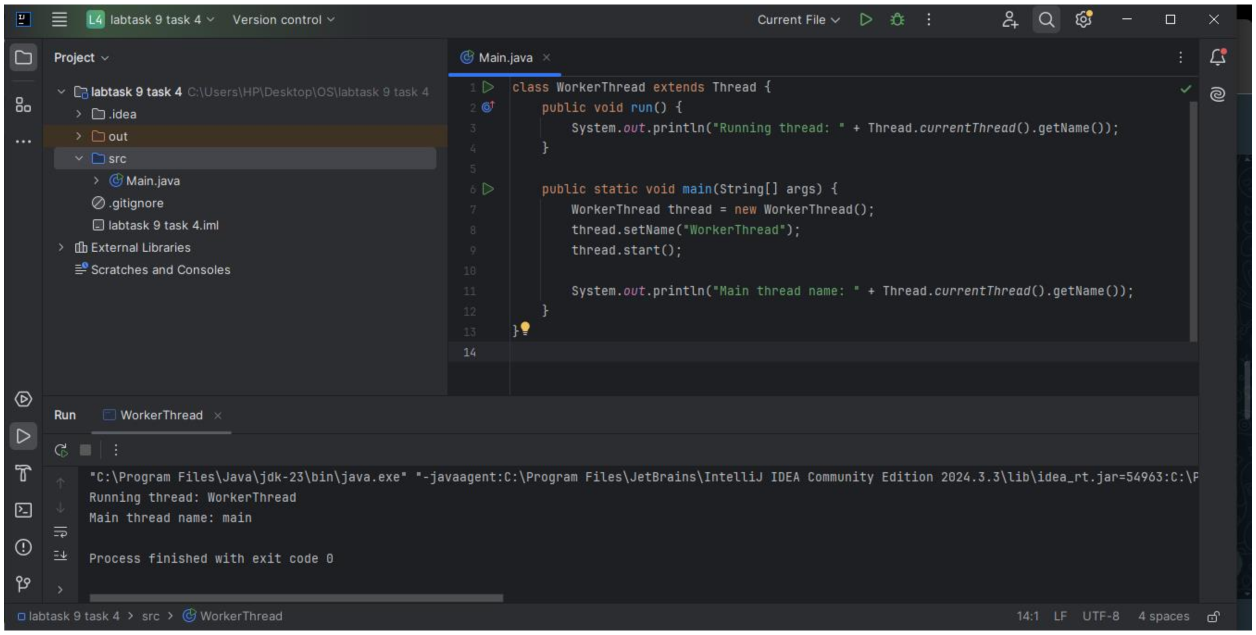
## Code

```java
class WorkerThread extends Thread {
    public void run() {
        System.out.println("Running thread: " +
Thread.currentThread().getName());
    }

    public static void main(String[] args) {
        WorkerThread thread = new WorkerThread();
        thread.setName("WorkerThread");
        thread.start();

        System.out.println("Main thread name: " +
Thread.currentThread().getName());
    }
}
```

output :



```java
class WorkerThread extends Thread {
    public void run() {
        System.out.println("Running thread: " + Thread.currentThread().getName());
    }

    public static void main(String[] args) {
        WorkerThread thread = new WorkerThread();
        thread.setName("WorkerThread");
        thread.start();

        System.out.println("Main thread name: " + Thread.currentThread().getName());
    }
}
```

```
"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.3.3\lib\idea_rt.jar=54963:C:\P
Running thread: WorkerThread
Main thread name: main

Process finished with exit code 0
```

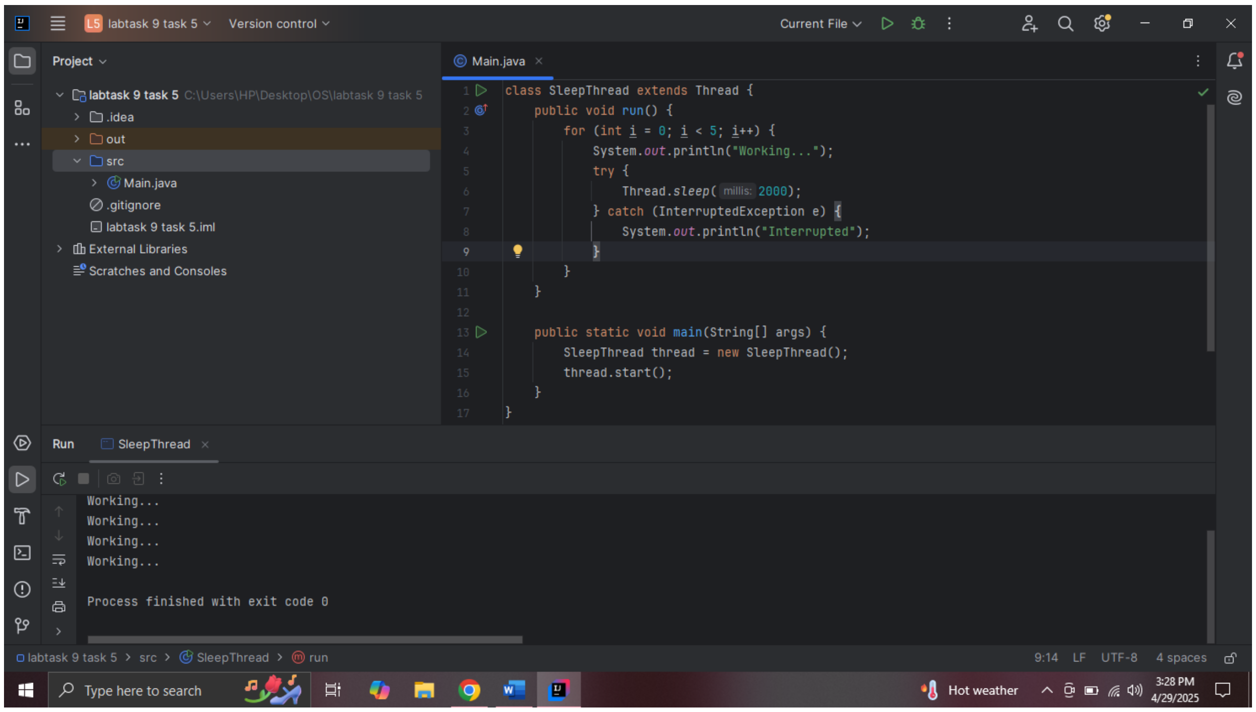
## Lab task 5

## Code

```java
class SleepThread extends Thread {
    public void run() {
        for (int i = 0; i < 5; i++) {
            System.out.println("Working...");
            try {
                Thread.sleep(2000);
            } catch (InterruptedException e) {
                System.out.println("Interrupted");
            }
        }
    }

    public static void main(String[] args) {
        SleepThread thread = new SleepThread();
        thread.start();
    }
}
```

output :



```java
class SleepThread extends Thread {
    public void run() {
        for (int i = 0; i < 5; i++) {
            System.out.println("Working...");
            try {
                Thread.sleep( millis: 2000);
            } catch (InterruptedException e) {
                System.out.println("Interrupted");
            }
        }
    }

    public static void main(String[] args) {
        SleepThread thread = new SleepThread();
        thread.start();
    }
}
```

```
Working...
Working...
Working...
Working...

Process finished with exit code 0
```

## Lab task 6

## Code :

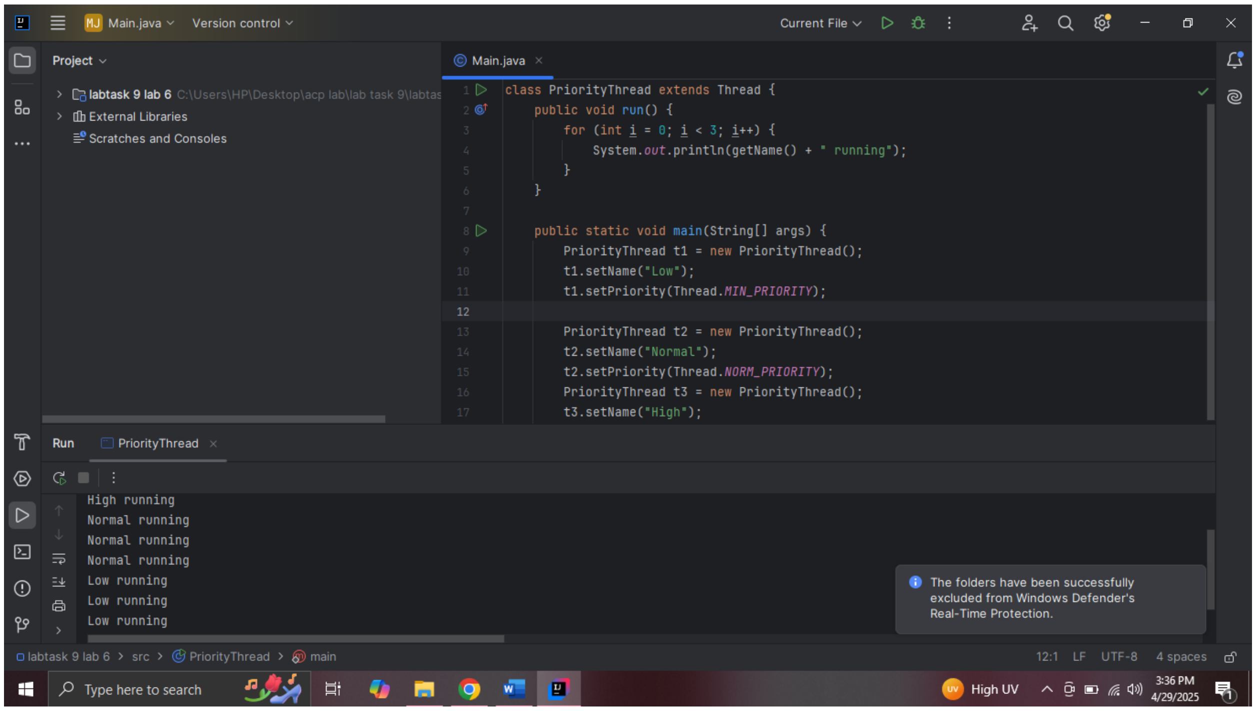
```java
class PriorityThread extends Thread {
    public void run() {
        for (int i = 0; i < 3; i++) {
            System.out.println(getName() + " running");
        }
    }

    public static void main(String[] args) {
        PriorityThread t1 = new PriorityThread();
        t1.setName("Low");
        t1.setPriority(Thread.MIN_PRIORITY);

        PriorityThread t2 = new PriorityThread();
        t2.setName("Normal");
        t2.setPriority(Thread.NORM_PRIORITY);
        PriorityThread t3 = new PriorityThread();
        t3.setName("High");
        t3.setPriority(Thread.MAX_PRIORITY);

        t1.start();
        t2.start();
        t3.start();
    }
}
```

output :



```java
class PriorityThread extends Thread {
    public void run() {
        for (int i = 0; i < 3; i++) {
            System.out.println(getName() + " running");
        }
    }

    public static void main(String[] args) {
        PriorityThread t1 = new PriorityThread();
        t1.setName("Low");
        t1.setPriority(Thread.MIN_PRIORITY);

        PriorityThread t2 = new PriorityThread();
        t2.setName("Normal");
        t2.setPriority(Thread.NORM_PRIORITY);
        PriorityThread t3 = new PriorityThread();
        t3.setName("High");
```

```
High running
Normal running
Normal running
Normal running
Low running
Low running
Low running
```

The folders have been successfully excluded from Windows Defender's Real-Time Protection.

Task 7 :

Code :

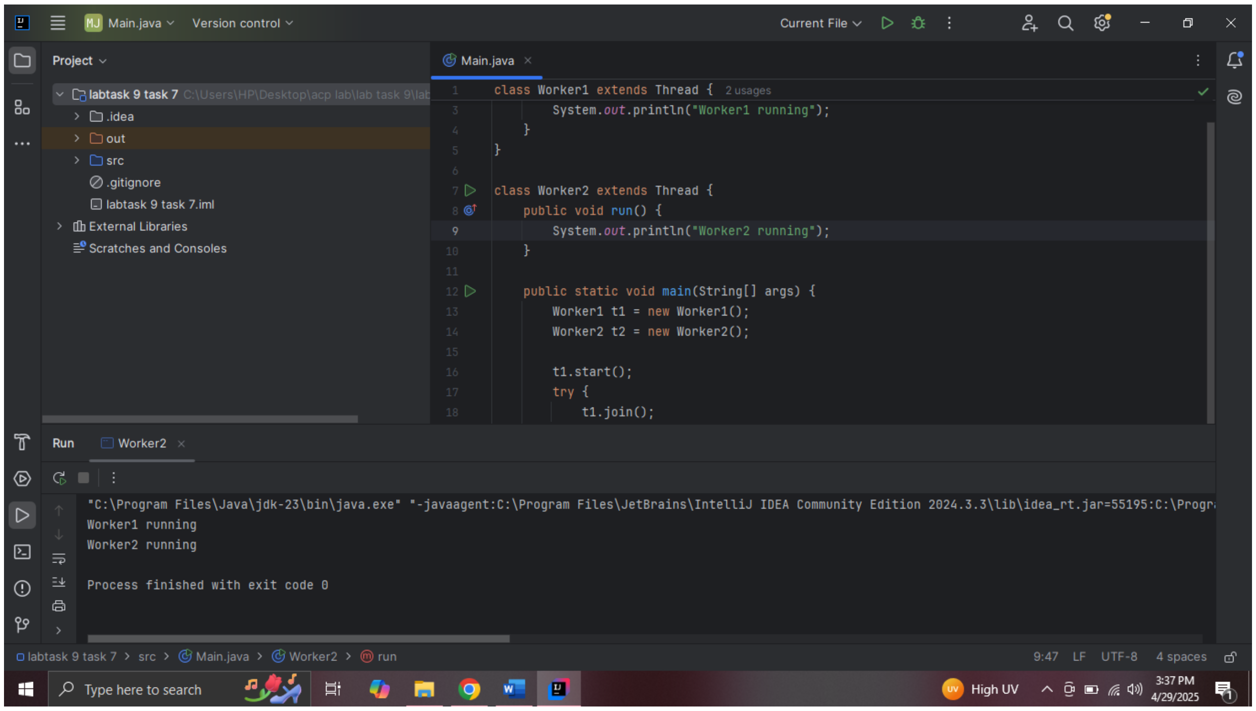
```java
class Worker1 extends Thread {
    public void run() {
        System.out.println("Worker1 running");
    }
}

class Worker2 extends Thread {
    public void run() {
        System.out.println("Worker2 running");
    }

    public static void main(String[] args) {
        Worker1 t1 = new Worker1();
        Worker2 t2 = new Worker2();

        t1.start();
        try {
            t1.join();
        } catch (InterruptedException e) {
            System.out.println("Join interrupted");
        }
        t2.start();
        }
}
```

output :



```java
class Worker1 extends Thread {  2 usages
        System.out.println("Worker1 running");
    }
}

class Worker2 extends Thread {
    public void run() {
        System.out.println("Worker2 running");
    }

    public static void main(String[] args) {
        Worker1 t1 = new Worker1();
        Worker2 t2 = new Worker2();

        t1.start();
        try {
            t1.join();
```

```
"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.3.3\lib\idea_rt.jar=55195:C:\Progr
Worker1 running
Worker2 running

Process finished with exit code 0
```