

**Ex. No. 8****MULTITHREADING****Date of Exercise**

24-02-2018

**Aim:**

Create a java application to solve the producer consumer problem using java's interthread communication as follows. Get a sentence as input and extract the words from it. Now producer should produce word by word and consumer must consume that word respectively.

**Algorithm:**

- 1) Start.
- 2) Create a class, inside the class we can have two functions get and put, for producing and consuming the word.
- 3) In the main function, create an object for BufferedReader.
- 4) Then, use thread to solve the producer consumer problem.
- 5) End.

**Source Code:**

```
package exp8;

import java.io.InputStreamReader;
import java.io.BufferedReader;
import java.io.IOException;
class PC{
    String data;
    synchronized void get(String data) {
        this.data = data;
        System.out.println("Producer: "+ data);
        notify();
        try {
            wait();}
    }
```

## Java Programming Lab

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```
        catch(InterruptedException ex) {
            System.out.println(ex);}
    synchronized void put() {
        System.out.println("Consumer: "+ data);
        notify();
        try {
            wait();}
        catch(InterruptedException ex) {
            System.out.println(ex);}
    }
}

public class Exp8 {
    public static void main(String[] args) throws IOException{
        BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

        PC pc= new PC();

        System.out.print("Enter a String: ");

        String s = br.readLine();

        String ss[]= s.split(" ");

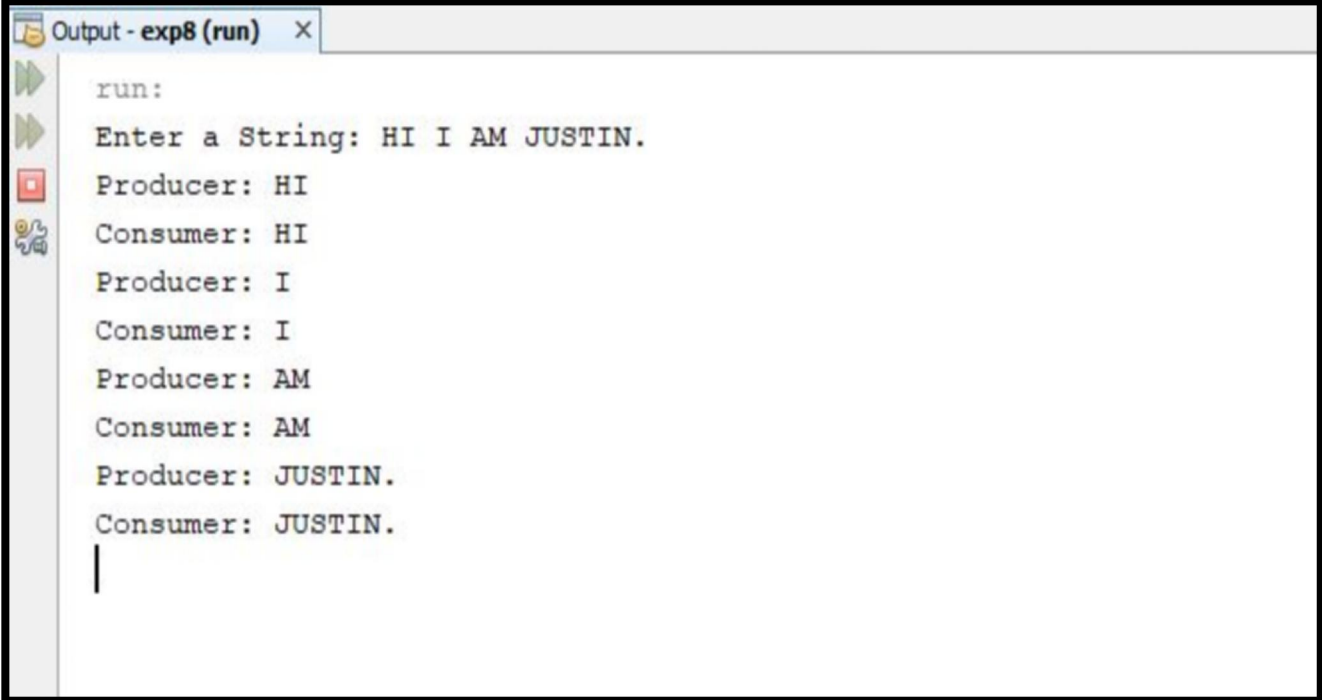
        Thread producer = new Thread(new Runnable() {
            public void run() {
                for(String i: ss) {pc.get(i);}
            }
        });

        Thread consumer = new Thread(new Runnable() {
            public void run() {
                for(int i = 0; i < ss.length; i++) {
                    pc.put();
                }
            }
        });

        producer.start();

        consumer.start();
    }
}
```

## Input & Output:



```
Output - exp8 (run) x
run:
Enter a String: HI I AM JUSTIN.
Producer: HI
Consumer: HI
Producer: I
Consumer: I
Producer: AM
Consumer: AM
Producer: JUSTIN.
Consumer: JUSTIN.
|
```

## Video URL:

<https://www.youtube.com/watch?v=Ayd9wCqsuy0&index=8&list=PL2ARJYFJqbcImMxZ0IOblv4a-9nBZrstY>

## Result:

The program to create a java application to solve the producer consumer problem using java's interthread communication, get a sentence as input and extract the words from it. Now producer should produce word by word and consumer must consume that word respectively is successfully implemented and the output is verified.