

EXPERIMENT N0-6

Write a program to implement solution of Producer consumer problem

CODE:

```
package com.harsh;

public class ProCon {

    public static void main(String[] args) {

        CubbyHole c = new CubbyHole();
        Producer p1 = new Producer(c, 1);
        Consumer c1 = new Consumer(c, 1);
        p1.start();
        c1.start();
    }
}

class CubbyHole {

    private int contents;
    private boolean available = false;

    public synchronized int get() {
        while (available == false) {
            try {
                wait();
            } catch (InterruptedException e) {}
        }
        available = false;
        notifyAll();
    }
}
```

```

        return contents;
    }
    public synchronized void put(int value) {
        while (available == true) {
            try {
                wait();
            } catch (InterruptedException e) { }
        }
        contents = value;
        available = true;
        notifyAll();
    }
}

class Consumer extends Thread {
    private CubbyHole cubbyhole;
    private int number;

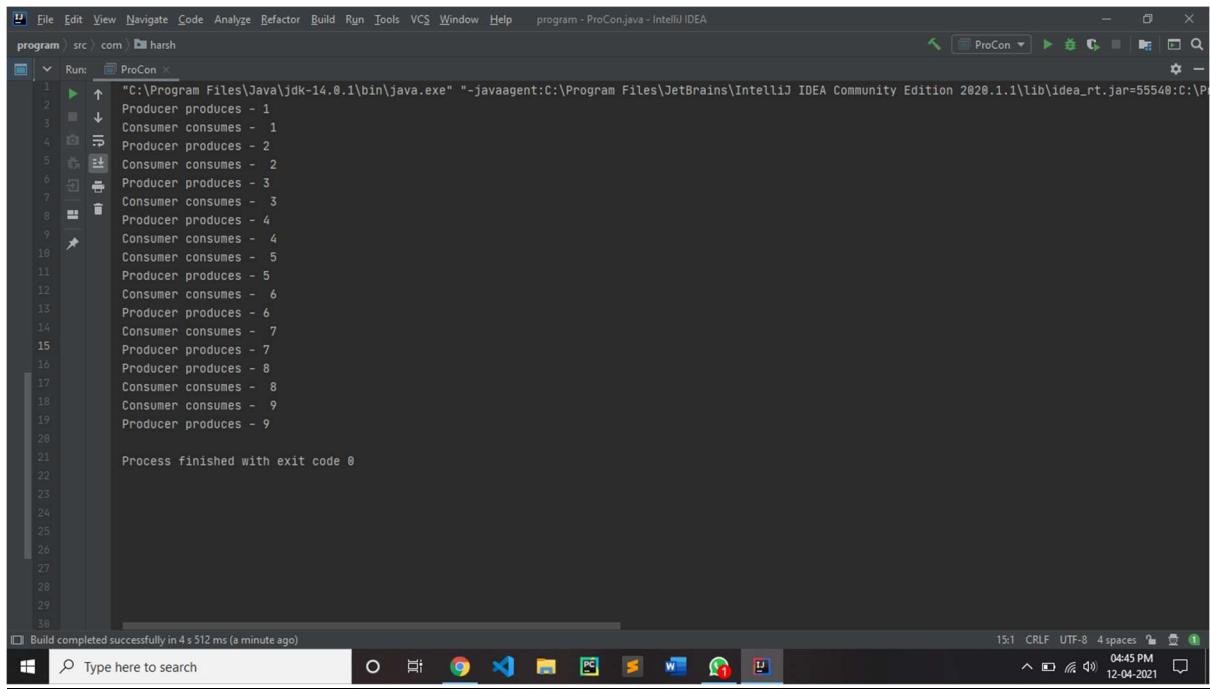
    public Consumer(CubbyHole c, int number) {
        cubbyhole = c;
        this.number = number;
    }

    public void run() {
        int value = 0;
        for (int i = 1; i < 10; i++) {
            value = cubbyhole.get();
            System.out.println("Consumer consumes - " + value);
        }
    }
}

```

```
    }  
}  
class Producer extends Thread {  
    private CubbyHole cubbyhole;  
    private int number;  
    public Producer(CubbyHole c, int number) {  
        cubbyhole = c;  
        this.number = number;  
    }  
    public void run() {  
        for (int i = 1; i < 10; i++) {  
            cubbyhole.put(i);  
            System.out.println("Producer produces - " + i);  
            try {  
                sleep((int)(Math.random() * 100));  
            } catch (InterruptedException e) { }  
        }  
    }  
}
```

OUTPUT:



```
"C:\Program Files\Java\jdk-14.0.1\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2020.1.1\lib\idea_rt.jar=55540:C:\P
1 Producer produces - 1
2 Consumer consumes - 1
3 Producer produces - 2
4 Consumer consumes - 2
5 Producer produces - 3
6 Consumer consumes - 3
7 Producer produces - 4
8 Consumer consumes - 4
9 Producer produces - 5
10 Consumer consumes - 5
11 Producer produces - 6
12 Consumer consumes - 6
13 Producer produces - 7
14 Consumer consumes - 7
15 Producer produces - 8
16 Consumer consumes - 8
17 Producer produces - 9
18 Consumer consumes - 9
19
20
21 Process finished with exit code 0
22
23
24
25
26
27
28
29
30
```

Build completed successfully in 4 s 512 ms (a minute ago)

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