That produces Exconsumer 15/2/24 class Q synchronized in got() System.out.printlu ("Cost:" + N); seture n; signaturo mized void put (int n) thu. n= n; Sydem.ord.priwlln("Put; "+ h); Produce implements Runnalste Q q : Produces (Q q) this of : 9; new Produces"). Atout (); public word sum () & ind ; = 0; 3 (21>i) distant 9 put (1+1); clars Consumer implements Runnable Consumer (Q 9) Heis. 9 = 9 (this, " Consuma"). 1 tal ();

vold gun () jut 1:0; while (ix 15) mel: ? ind 8=9.get(1) 1++; PCS main (String orgit 3) public Hatic Not d = New Q(Producer (9); Consumer (g) new Control - C to ptop !); OP put: 0 'put: 1 901:14 (N = 11 will,

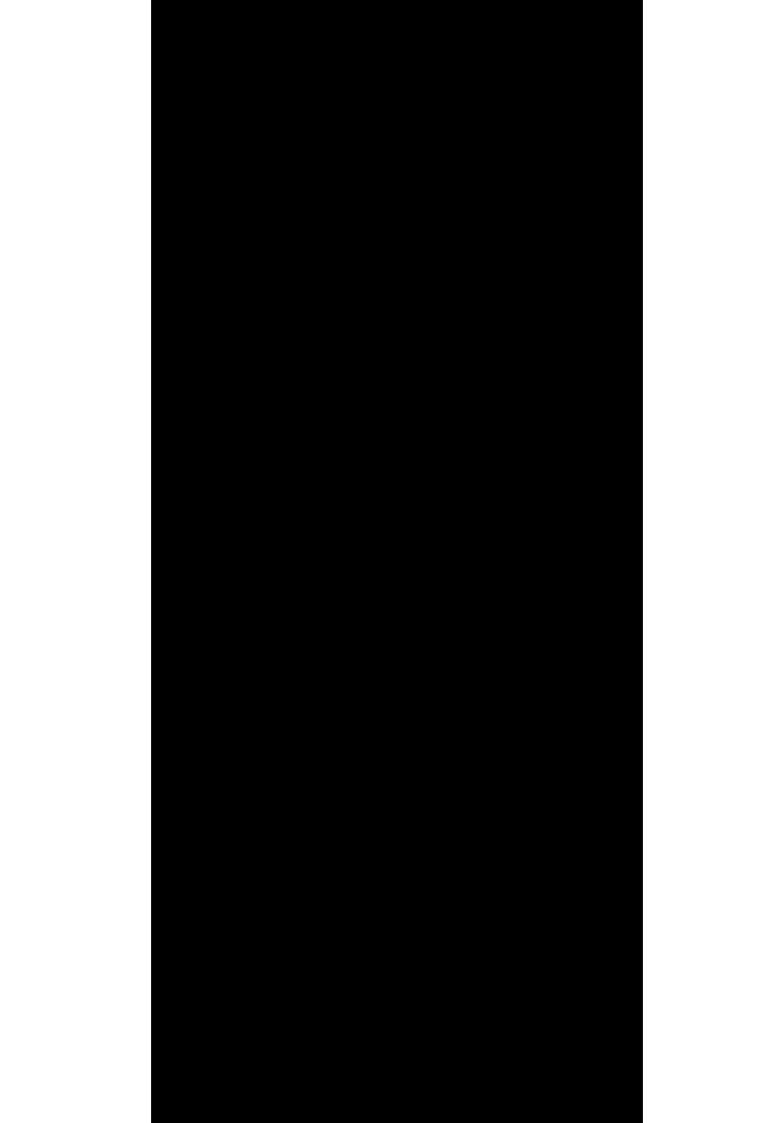
C:\Users\Admin\Desktop\rachana>javac consumer.java C:\Users\Admin\Desktop\rachana>java PC Press Control-C to stop. Put: 0 Put: 1 Put: 2 Put: 3 Put: 4 Put: 6 Put: Put: 7 Put: 8 Put: 9 Put: 10 Put: Put: 12 Put: 13 Put: 14 14 Got: Got: 14 Got: 14 Got: 14 14 Got: Got: 14 Got: 14 Got: 14 Got: 14 14 Got: Got: 14 14 Got: Got: 14 Got: 14 Got: 14

```
clan Q
   boolean valueSet = false;
   eynthronized int get ()
      while (! valueret)
        thy & spo gist2) nion boar sitok, sitting
            System.out. println ("Consumer waiting \n");
            wait();
                          (i) www.orl
        Catch (Interested Exaption e)
           System. out. privid b. ("Interrepted Exception (aught))
           Bysten.out.prith("hot:"+n);
           Syten.out. println("Intimate Produce");
       noti fyl 1;
z return n;
      syndronized noid put(int n)
           blik (value Set)
                System.out. printle ( Produces waiting!);
              waite);
             Cotch (Intempted Exception e)
               System out printles ("Interrupted Frephon aught
               dien. n = n;
               value Set = true;
```

Byston. out. printle (" Tatime Consume,"), clay Producer implements Remade & Powducer (Q q) thing = 9; new Thread (this, "Produce"). Start (); public void run () a inteli =0; ?["] = Ling. 200 .- 200 ?? while (icis)? 9. pat (1++); implements knowsh Consumer (Q q) "Consumer"). start(); grew Thread (this, public roid succes ind i=0;
while (i< 15)

" some out probable (" Taking los wife, 9; nt 9=q.get(.); System. out. printler ("Consumed!"+ 9); Produces inflored humalis class PC Fixed pulie static void void main (5 thing args (7) Qq= rew QC); booket wer new produces(9), i bler , illeg new Continues (9); System. out. printle (" Pres: Conted-cto 4401.")" ((2/2!) J.Men 9. put (11+) و ا ح Pour Control - C to stop hierardy Intinate Consumer Produce waiting (40:0) remuser (0:04) Intimale Producer put: 14tint Commerced " , rist) breight Intimate Produces Cheek bion while Consumed: 14

```
C:\Users\Admin\Desktop\rachana>java PCFixed
Press Control-C to stop.
out: 0
Intimate Consumer
Producer waiting
Got: 0
Intimate Producer
Put: 1
Intimate Consumer
Producer waiting
consumed:0
Got: 1
Intimate Producer
consumed:1
Put: 2
Intimate Consumer
Producer waiting
Got: 2
Intimate Producer
consumed:2
Put: 3
Intimate Consumer
Producer waiting
Got: 3
Intimate Producer
consumed:3
Put: 4
Intimate Consumer
Producer waiting
Got: 4
Intimate Producer
consumed:4
```



Got: 9 Intimate Producer consumed:9 Put: 10 Intimate Consumer Producer waiting Got: 10 Intimate Producer consumed:10 Put: 11 Intimate Consumer Producer waiting Got: 11 Intimate Producer consumed:11 Put: 12 Intimate Consumer Producer waiting Got: 12 Intimate Producer consumed:12 Put: 13 Intimate Consumer Producer waiting Got: 13 Intimate Producer consumed:13 Put: 14 Intimate Consumer Got: 14 Intimate Producer consumed:14

3) Deadlock: class A synchronized "void / foo (B.b)-) String name=Thread.currentThread().getName(); System.out.println(name + "entered A. joo"); Thread. Help(1000); catch (Exaption e) (1) and Tries & grant out printh ("A "Intempted"); System out. printly (name + " trying to Call B. last ()"). Syster. out. pristle ("Back 80 trob biour System.out. print h ("Ineride A. last"); ynchronized roid Ses (A a) String name = Thread. current (horad (). get Name (); System.out.pxintle(name + "entered B. bas"); Phread. Heep(1000); (1) And boot war catch (Exception e) Systen. out. prilith ("B interripted");

Syden. out. print br (nam + " trying to call the last ().). a. last (1; for moly noid last() System. out. printle ("Inside" A. last") clau Dead lock implements Runnable grate A a = new A(); B & = new B(); (Could freto best) Deadlock () (a welffar 3) which Phread and current Thread (): set Name ("Main Thread"); Chred & = hew Thread (this, "Racing Thread"). a. joo(b); System. out. println ("Back in main thouad"): 20 tral bim. ("tool A abject ") il loing two waters? pullic uoid run() b.bar (a); System. out. prith (" Buch in Other. thread"); public statice void main (String age (7) new Deadlock (); (1001) gade line27. (s mitdox3) illo

Painthread entered Biber Painthread entered A. Foo Main Thread thying to call B. last () Main Thread thying to call A. last () Back in Main thread Back in other thread. Back in other thread.

```
C:\Windows\System32\cmd.exe
C:\Users\Admin\Desktop\rachana>javac dlock.java
dlock.java:96: error: class, interface, enum, or record expected
MainThread entered A.foo
^
1 error
C:\Users\Admin\Desktop\rachana>javac dlock.java
C:\Users\Admin\Desktop\rachana>java Deadlock
RacingThread entered B.bar
MainThread entered A.foo
MainThread trying to call B.last()
Inside A.last
Back in main thread
RacingThread trying to call A.last()
Inside A.last
Back in other thread
```

C:\Users\Admin\Desktop\rachana>_