Here is a possible correct output for the producer-consumer problem. The exact details will vary.

(The output looks MUCH better when viewed in a fixed-width font.)

The Producers and consumers may run in slightly different orders. Read down each column and check that A runs 5 times, B runs 5 times, C runs 5 times, etc. Also, the order that characters are added should be the same as they are consumed. To see the order they are added, read down through the producer threads. In this example, the sequence is

A A A B B A B D C A...

(These are on the left of the vertical bars.) Then read down the right side, to make sure the consumers are taking the characters in the same sequence:

A A A B B A B D C A...

Also, the buffer is shown on the far left. It should grow and shrink, but should never jump by more than one character per line.

```
====================  KPL PROGRAM STARTING  ====================
Example Thread-based Programs...
Initializing Thread Scheduler...
        Producer-A         A
A       Producer-A         A
AA      Consumer-2                              |          A
A       Producer-A         A
AA      Producer-B             B
AAB     Producer-B             B
AABB    Consumer-1                              |      A
ABB     Consumer-1                              |      A
BB      Consumer-3                              |              B
B       Producer-A         A
BA      Consumer-2                              |          B
A       Consumer-3                              |              A
        Producer-B             B
B       Producer-D                     D
BD      Producer-C                 C
BDC     Producer-A         A
BDCA    Consumer-3                              |              B
DCA     Consumer-1                              |      D
CA      Consumer-1                              |      C
A       Producer-E                         E
AE      Producer-C                 C
AEC     Consumer-2                              |          A
EC      Producer-E                         E
ECE     Producer-B             B
ECEB    Consumer-1                              |      E
CEB     Producer-C                 C
CEBC    Consumer-3                              |              C
EBC     Consumer-1                              |      E
BC      Producer-D                     D
BCD     Consumer-2                              |          B
CD      Consumer-3                              |              C
D       Consumer-1                              |      D
        Producer-E                         E
E       Producer-E                         E
EE      Producer-C                 C
EEC     Producer-D                     D
EECD    Producer-B             B
```

```
EECDB   Consumer-2                          |          E
ECDB    Consumer-2                          |          E
CDB     Consumer-2                          |          C
DB      Producer-E                     E
DBE     Consumer-2                          |          D
BE      Producer-C               C
BEC     Consumer-1                          |     B
EC      Producer-D                  D
ECD     Producer-D                  D
ECDD    Consumer-3                          |               E
CDD     Consumer-3                          |               C
DD      Consumer-3                          |               D
D       Consumer-2                          |          D

*****  A 'wait' instruction was executed and no more interrupts are scheduled... halting
emulation  *****
```