|  |  |  |  |
| --- | --- | --- | --- |
| Buf | | | |
|  |  |  |  |
| Lock’s wait queue | | | |
| C1 |  |  |  |
| Lock’s blocked queue | | | |
|  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Buf | | | |
| C |  |  |  |
| Lock’s wait queue | | | |
| C1 | C2 |  |  |
| Lock’s blocked queue | | | |
|  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Buf | | | |
|  |  |  |  |
| Lock’s wait queue | | | |
|  |  |  |  |
| Lock’s blocked queue | | | |
| C1 |  |  |  |

No, C2 just removed c.

Now c1 is in the blocked queue waiting for a character to be added to buffer.

If no while loop the program would try to take a character from the buffer when nothing is there

|  |  |  |  |
| --- | --- | --- | --- |
| Buf | | | |
| c |  |  |  |
| Lock’s wait queue | | | |
| P2 | P3 |  |  |
| Lock’s blocked queue | | | |
|  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Buf | | | |
|  |  |  |  |
| Lock’s wait queue | | | |
| P2 | P3 | C2 | C3 |
| Lock’s blocked queue | | | |
|  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Buf | | | |
|  |  |  |  |
| Lock’s wait queue | | | |
| P2 | P3 | C2 | C3 |
| Lock’s blocked queue | | | |
|  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Buf | | | |
| d |  |  |  |
| Lock’s wait queue | | | |
| P3 | C2 | C3 |  |
| Lock’s blocked queue | | | |
|  |  |  |  |

Yes, P3, C2, or C3 could be selected.

It would wake up all the threads and allow C2 or C3 to grab the character and then proceed to execute the rest of the P and C functions