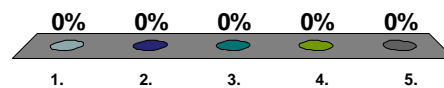


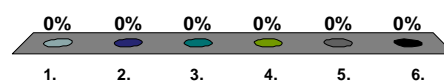
What layer does TFTP implement?

1. Network interface
2. Internet
3. Application
4. Transport
5. Network hardware



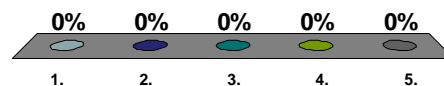
What type of threads are created directly by the programmer in Java?

1. Demon
2. Non-demon
3. Daemon
4. Non-Daemon
5. 1 and 2
6. 3 and 4



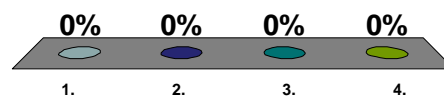
How do we implement mutual exclusion in Java?

1. The wait(), notify() and notifyAll() methods
2. Condition variables
3. The DatagramSocket and DatagramPacket classes
4. The synchronized keyword in a method header
5. By adjusting thread priorities



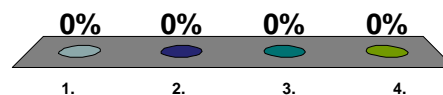
What does it mean if we have a class with 3 methods, all of which are synchronized?

1. At most 3 threads can access the class at the same time
2. At most 3 threads can access each instance of the class at the same time
3. At most one thread can access the class at once
4. At most one thread can access each instance of the class at once



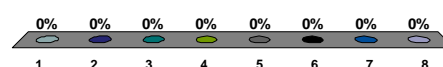
Where can we use the wait() method?

1. In any method
2. In any unsynchronized method
3. In any synchronized method
4. Only in the main program



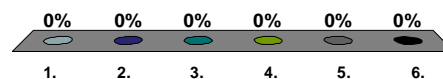
In what context should we always put "wait()"?

1. Inside a try/catch block for InterruptedException
2. Inside an if statement
3. Inside a while statement
4. Inside a try/catch block for SocketException
5. 1 and 2
6. 1 and 3
7. 2 and 4
8. 3 and 4

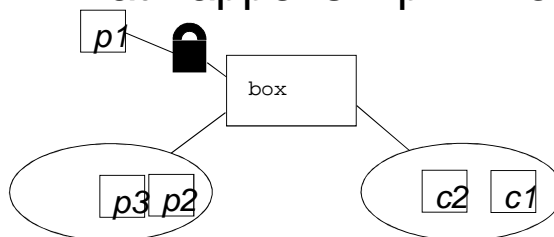


What is the purpose of the wait loop idiom?

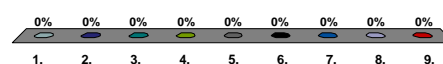
1. Liveness
2. Safety
3. Mutual Exclusion
4. Liveness and Safety
5. Busy-Waiting
6. Condition Variables



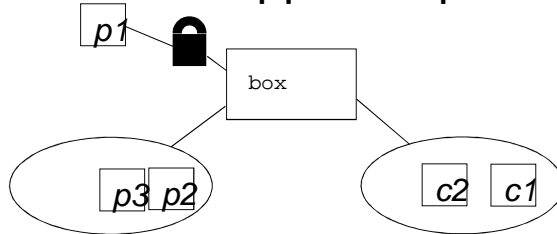
What happens if p1 invokes notifyAll()?



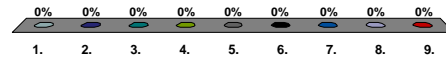
1. p2 and p3 move to the right oval
2. c1 and c2 move to the left oval
3. p2 moves to the right oval
4. c2 moves to the left oval
5. p1 moves to the left oval
6. p1 moves to the right oval
7. One of c2 or c1 moves to the left oval
8. One of p3 or p2 moves to the right oval
9. p1 disappears from the diagram



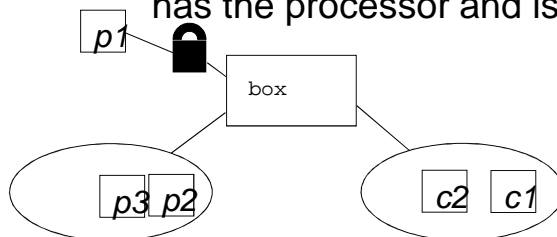
What happens if p1 invokes wait()?



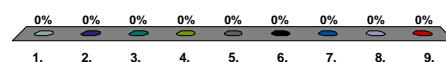
1. p2 and p3 move to the right oval
2. c1 and c2 move to the left oval
3. p2 moves to the right oval
4. c2 moves to the left oval
5. p1 moves to the left oval
6. p1 moves to the right oval
7. One of c2 or c1 moves to the left oval
8. One of p3 or p2 moves to the right oval
9. p1 disappears from the diagram



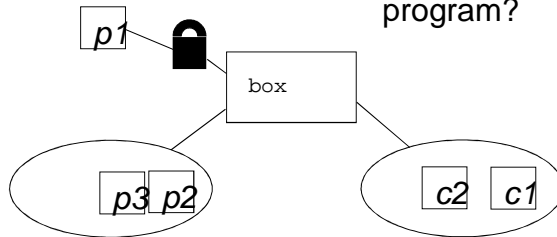
Assuming a uni-processor, what thread currently has the processor and is executing?



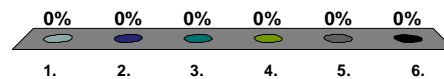
1. P1
2. P2
3. P3
4. C1
5. C2
6. Another thread not pictured
7. C1 or c2
8. P2 or p3
9. P1 or another thread not pictured



Which of the thread(s) shown must currently have or have had the processor at some time in the execution of this program?

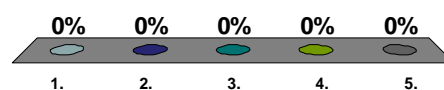


1. We can't tell (not enough information)
2. P1
3. P1, p2 and p3
4. P1, c1 and c2
5. P1, c2 and p3
6. All of them



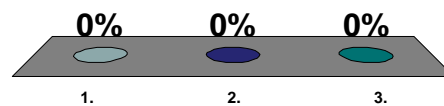
When can we use `notify()` instead of `notifyAll()`?

1. Always
2. Never
3. When all threads are waiting for the same condition
4. When all threads are waiting for the same condition and at most one can benefit
5. As long as we have fewer than 10 threads



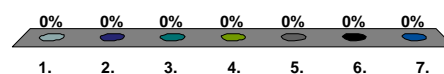
Can we use notify() instead of notifyAll() in our Box class?

1. yes
2. no
3. sometimes



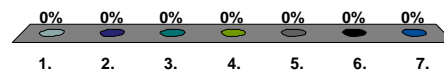
In TFTP, what is the maximum number of file bytes per DATA block?

1. 511
2. 512
3. 1
4. 0
5. 1024
6. 1025
7. 1023



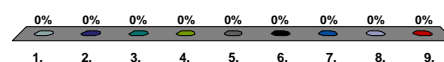
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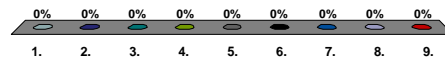
In TFTP, what is the response to a WRQ?

1. DATA 0
2. DATA 1
3. DATA 2
4. ACK 0
5. ACK 1
6. ACK 2
7. RRQ
8. WRQ
9. No response



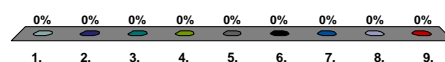
In TFTP, what is the response to a RRQ?

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2. DATA 1
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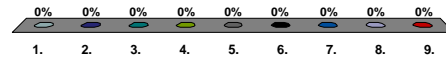
In TFTP, what is the response to DATA 1?

1. DATA 0
2. DATA 1
3. DATA 2
4. ACK 0
5. ACK 1
6. ACK 2
7. RRQ
8. WRQ
9. No response



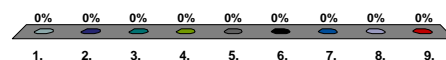
In TFTP, what is the response to ACK 1,
assuming a file at least 512 bytes?

1. DATA 0
2. DATA 1
3. DATA 2
4. ACK 0
5. ACK 1
6. ACK 2
7. RRQ
8. WRQ
9. No response



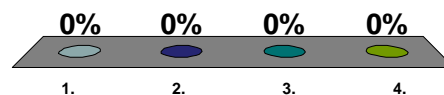
In TFTP, what is the response to ACK 1,
assuming a file less than 512 bytes?

1. DATA 0
2. DATA 1
3. DATA 2
4. ACK 0
5. ACK 1
6. ACK 2
7. RRQ
8. WRQ
9. No response



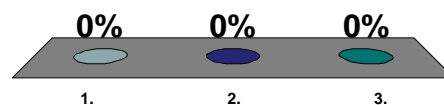
What diagrams do we use to help us determine the number of threads per component?

1. Timing Diagram
2. UCM (Use Case Map)
3. UML Class Diagram
4. UML Collaboration diagram



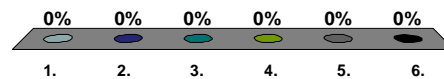
In TFTP, should we have a separate thread for reading from / writing to a file?

1. Yes, it's mandatory
2. No, it's wrong
3. Maybe, it's optional



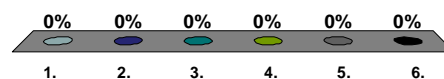
In Project Iteration #1, what should you do if a packet is incorrect (i.e. cannot be parsed as expected)?

1. Fix the packet and continue
2. Ignore the packet and continue
3. Quit
4. Throw an exception and quit
5. Any of the above
6. 3 or 4



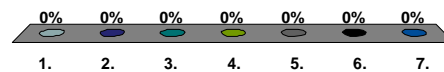
In Project Iteration #1, what should you do if an I/O operation fails (cannot open file, etc.)?

1. Fix the packet that caused the problem and continue
2. Ignore the packet and continue
3. Quit
4. Throw an exception and quit
5. Any of the above
6. 3 or 4



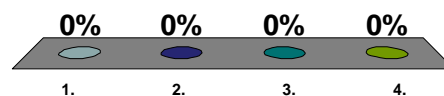
In Project Iteration #1, what should you do during a transfer if you don't receive a packet?

1. Continue to wait for a packet
2. Retransmit the previous packet and continue to wait
3. Quit
4. Throw an exception and quit
5. Any of the above
6. 3 or 4
7. 1, 3 or 4



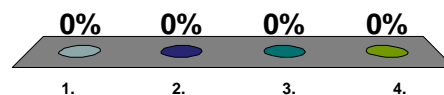
Why does the listener thread need to set a timeout on the receive method?

1. So that it's not busy waiting
2. To ensure thread safety
3. So that we can shutdown the server
4. All of the above



How does the server know to shutdown?

1. The client sends a shutdown message
2. The server operator types a shutdown message on the console
3. The server never shuts down
4. Any of the above



What happens to transfers in progress when the server shuts down?

1. They continue until they are complete
2. They stop when the server shuts down
3. They stop 5 seconds after the server shuts down if they're not yet complete
4. Any of the above

