ECAP615

Programming in Java

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Learning Outcomes

After this lecture, you will be able to

- learn the basic concept of pooling.

- understand the concept of thread communication and the process of thread communication

- know the difference between wait and sleep

What is Pooling?

- The process of testing a condition repeatedly till it becomes true is known as pooling.

- Java provide benefits of avoiding thread pooling using inter-thread communication.

- Pooling is usually implemented with the help of loops to check whether a particular condition is true or not.

- If it is true, certain action is taken.

How to avoid Pooling

To avoid pooling, Java uses three methods, namely, wait(), notify() and notifyAll().

- wait()

- notify()

- notifyAll()

Thread Communication

- **Inter-thread communication** or **Co-operation** is all about allowing synchronized threads to communicate with each other.

- It is the process in which two threads communicate with each other by using wait(), notify(), and notifyAll() methods.
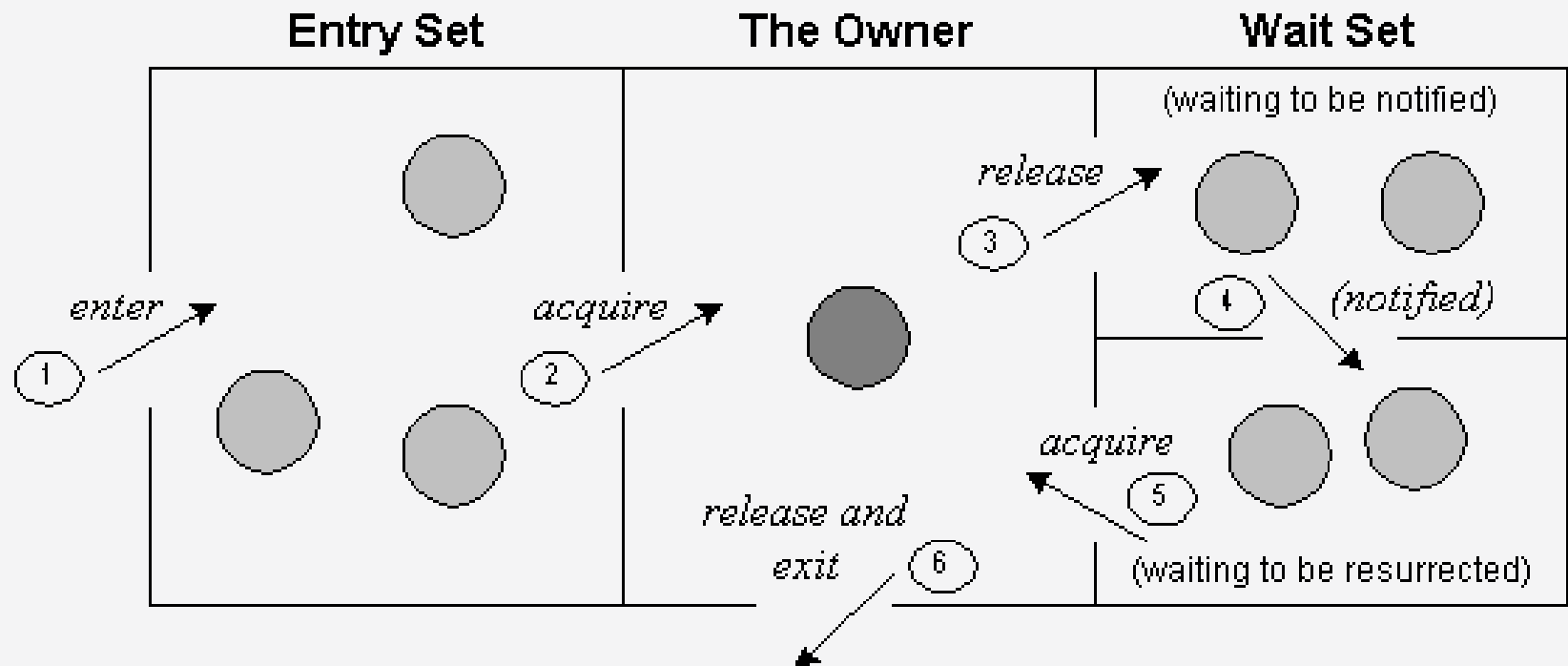
Important Points to Remember

1. wait(), notify() and notifyAll() methods are available in Object class but not in Thread class because Thread can call these methods on any common object.

2. To call wait(), notify() and notify All() methods compulsory the current thread should be the owner of that object .

3. Once a thread calls the wait() method on the given object 1st it releases the lock of that object immediately and entered into the waiting state.

Important Points to Remember

4. Except for these methods, there is no other place or method where the lock releases will happen.

5. One important thing to note that when a thread calls wait(), notify(), notifyAll() methods on any object then it releases the lock of that particular object but not all the lock it has.

6. Also note that on which object we are calling wait(), notify() and notifyAll() methods that corresponding object lock we have to get but not other object locks.

Inter-thread communication Process

Difference between wait() and sleep()

wait()	sleep()
wait() method releases the lock	sleep() method doesn't release the lock.
is the method of Object class	is the method of Thread class
is the non-static method	is the static method
should be notified by notify() or notifyAll() methods	after the specified amount of time, sleep is completed.

That's all for now…