

Course Name: A Level (2nd Sem)

Subject: JAVA

Topic: sleep and resume method

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Daemon Thread in Java:

Daemon thread in java is a service provider thread that provides services to the user thread. Its life depend on the mercy of user threads i.e. when all the user threads dies, JVM terminates this thread automatically.

There are many java daemon threads running automatically e.g. gc, finalizer etc.

Note: If we want to make a user thread as Daemon, it must not be started otherwise it will throw `IllegalThreadStateException`.

Example:

```
public class Daemon1 extends Thread{
    public void run(){
        if(Thread.currentThread().isDaemon()){
            System.out.println("Daemon thread executing");
        }
        else{
            System.out.println("normal thread executing");
        }
    }
    public static void main(String[] args){
        Daemon1 t1=new Daemon1();
        Daemon1 t2=new Daemon1();

        t1.setDaemon(true); ← Making t1 as daemon
        t1.start();
        t2.start();
    }
}
```

Note: The thread should be made daemon before starting it, otherwise it would throw `IllegalThreadStateException`.

suspend() method in Thread:

If you want to stop the thread execution and start it again when a certain event occurs. In this case, `suspend()` method allows a thread to temporarily cease execution.

resume() method in Thread:

`resume()` method works with `suspend()` method. `Resume()` method allows the suspended thread to start again.

```

public class suspend extends Thread {
    public void run() {
        try {
            for(int i=0; i<5; i++) {
                Thread.sleep(500);
                System.out.println( this.getName() + ": " + i );
            }
        }
        catch(InterruptedException e) {
            System.out.println(e);
        }
    }
    public static void main( String args[ ] ) {
        suspend s1 = new suspend();
        suspend s2 = new suspend();
        s1.setName("First");
        s2.setName("Second");
        s1.start();
        s2.start();
        try {
            Thread.sleep( 1000 );
            s1.suspend();
            System.out.println("Suspending thread First");
            Thread.sleep( 1000 );
            s1.resume();
            System.out.println("Resuming thread First");
            Thread.sleep(1000);
            s2.suspend();
            System.out.println("Suspending thread Second");
            Thread.sleep(1000);
            s2.resume();
            System.out.println("Resuming thread Second");
        }
        catch(InterruptedException e) {
            System.out.println(e);
        }
    }
}

```

Exercise:

1. What is daemon thread in java? Explain.
2. What are suspend and resume method?