1. Are these statements true or false? BRIEFLY explain your answer.

A. Threads are useful for decreasing software complexity
B. Threads decrease resource utilization
C. Threads potentially yield better performance

2. Are these statements true or false? BRIEFLY explain your answer.

class MyClass {
    String bar = "A string named bar";

    public void foo () {
        synchronized (bar) {
            synchronized (bar) {
                System.out.println(bar.toString());
            }
            System.out.println(bar.toString());
        }
    }
}

A. The program might deadlock at the first synchronized call
B. The program will always deadlock at the second synchronized call
C. The program might block at the first synchronized call
D. The program might block at the second synchronized call

Explain your answer.

3. Which classes/interfaces can be used to create a thread in Java?
4. Explain whether the following statements are true or false.

```java
public class Foo {
    private int x = 0;
    public synchronized bar () {
        x += 17;
    }
    public synchronized baz () {
        x -= 5;
    }
    public void addtoX(int arg) {
        return x += arg;
    }
}
```

A. At most one thread can execute inside `bar`
B. At most one thread can execute inside `bar` or `baz`
C. At most one thread can run in any method of `Foo`
D. At most one thread can be modifying `x`.

5. What is problematic about the following use of condition variable waiting? Identify the problem and propose a solution.

```java
synchronized (this) {
    if (x < 100) {
        try {
            this.wait();
        } catch (InterruptedException iex) {} // ignored
    }
    // do something useful with x...
}
```