

5COSC001W - Solutions to Tutorial 9 Exercises

1 Activity Diagrams

The second option is correct. A and B will be executed concurrently.

2 Collaboration Diagrams

See the example given in the lecture of how to draw a collaboration diagram corresponding to a sequence diagram.

3 Sequence Diagrams

See Figure 1.

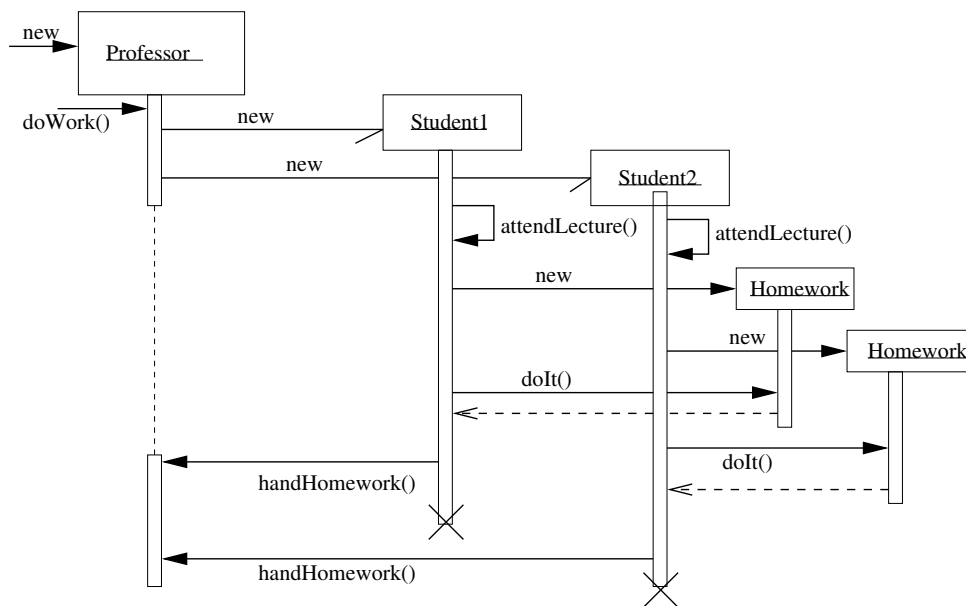


Figure 1: Question 3.

4 Sequence Diagrams

```
import java.io.*;

public class Supervisor {
    int workers_finished = 0;

    public void doWork() throws Exception {
        Worker worker1 = new Worker(this);
        Worker worker2 = new Worker(this);
        worker1.start();
        worker2.start();

        while (workers_finished < 2)
            Thread.sleep(1000);
        System.out.println("Supervisor finished, so going home!");
    }

    public synchronized void done() {
        ++workers_finished;
    }

    public static void main(String[] args) throws Exception {
        Supervisor controller = new Supervisor();
        controller.doWork();
    }
}

class Worker extends Thread {
    Supervisor supervisor;

    public Worker(Supervisor sup) {
        supervisor = sup;
    }

    public void run() {
        Task task = new Task();
        task.execute();
        haveLunch();
        supervisor.done();
    }

    public void haveLunch() {
        System.out.println("Worker is having lunch");
    }
}
```

```
class Task {  
    public void execute() {  
        System.out.println("Task performs its duty!");  
    }  
}
```

5 Class Diagrams

Study the class diagram given in the lecture notes and come up with your solution. Ask your tutor if in any doubt about your solution.