**TASK-4.0**

Please read the source code below and try to understand what it does.

**private** **void** updateBounds(TimePeriod period, **int** index) {

**if** (**this**.minMiddleIndex >= 0) {

**long** s = getDataItem(**this**.minMiddleIndex).getPeriod().getStart()

.getTime();

**long** e = getDataItem(**this**.minMiddleIndex).getPeriod().getEnd()

.getTime();

**long** minMiddle = s + (e - s) / 2;

**if** (middle < minMiddle) {

**this**.minMiddleIndex = index;

}

}

**if** (**this**.maxMiddleIndex >= 0) {

**long** s = getDataItem(**this**.minMiddleIndex).getPeriod().getStart()

.getTime();

**long** e = getDataItem(**this**.minMiddleIndex).getPeriod().getEnd()

.getTime();

**long** maxMiddle = s + (e - s) / 2;

**if** (middle > maxMiddle) {

**this**.maxMiddleIndex = index;

}

}

}

**Q.4.0. How well do you think you understand the code?**

* Well
* Not so well

**TASK-4.1**

However, this same code is failing.

**Failure Message:**

junit.framework.AssertionFailedError: expected:<1> but was:<3>

**Test:**

TimePeriodValues s = new TimePeriodValues(\"Test\");

s.add(new SimpleTimePeriod(0L, 50L), 3.0);

assertEquals(1, s.getMaxMiddleIndex());

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We will ask you to inpect **two different** locations in the **same code**.

**Q.4.1. Do you think that something in the highlighted code causes the failure?**

* Yes
* No

**private** **void** updateBounds(TimePeriod period, **int** index) {

**if** (**this**.minMiddleIndex >= 0) {

**long** s = getDataItem(**this**.minMiddleIndex).getPeriod().getStart()

.getTime();

**long** e = getDataItem(**this**.minMiddleIndex).getPeriod().getEnd()

.getTime();

**long** minMiddle = s + (e - s) / 2;

**if** (middle < minMiddle) {

**this**.minMiddleIndex = index;

}

}

**if** (**this**.maxMiddleIndex >= 0) {

**long** s = getDataItem(**this**.minMiddleIndex).getPeriod().getStart()

.getTime();

**long** e = getDataItem(**this**.minMiddleIndex).getPeriod().getEnd()

.getTime();

**long** maxMiddle = s + (e - s) / 2;

**if** (middle > maxMiddle) {

**this**.maxMiddleIndex = index;

}

}

}

**Q.4.2. How confident are you that your answer is correct?**

* Confident
* Not so confident

**TASK-4.2**

**Failure Message:**

junit.framework.AssertionFailedError: expected:1 but was:3

**Test:**

TimePeriodValues s = new TimePeriodValues(\"Test\");

s.add(new SimpleTimePeriod(0L, 50L), 3.0);

assertEquals(1, s.getMaxMiddleIndex());

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**Q.4.3. Do you think that something in the highlighted code causes the failure?**

* Yes
* No

**private** **void** updateBounds(TimePeriod period, **int** index) {

**if** (**this**.minMiddleIndex >= 0) {

**long** s = getDataItem(**this**.minMiddleIndex).getPeriod().getStart()

.getTime();

**long** e = getDataItem(**this**.minMiddleIndex).getPeriod().getEnd()

.getTime();

**long** minMiddle = s + (e - s) / 2;

**if** (middle < minMiddle) {

**this**.minMiddleIndex = index;

}

}

**if** (**this**.maxMiddleIndex >= 0) {

**long** s = getDataItem(**this**.minMiddleIndex).getPeriod().getStart()

.getTime();

**long** e = getDataItem(**this**.minMiddleIndex).getPeriod().getEnd()

.getTime();

**long** maxMiddle = s + (e - s) / 2;

**if** (middle > maxMiddle) {

**this**.maxMiddleIndex = index;

}

}

}

**Q.4.4. How confident are you that your answer is correct?**

* Confident
* Not so confident