

Lesson 14: FRQ Practice

45 minutes

Overview

How will I use what I know about `ArrayList`s and standard algorithms to answer a Free Response Question?

Students practice developing solutions to AP CSA FRQs on a mock Arrays FRQ. Students apply decomposition and annotation strategies to identify the key components of the problem and validate their solutions using Scoring Guidelines.

Agenda

Warm Up (5 minutes)

Breathing Exercise

Activity (35 minutes)

Writing

Scoring and Review

Wrap Up (5 minutes)

Give One, Get One

Assessment (Optional)

Objectives

Students will be able to:

- Implement methods based on a given set of specifications
- Plan an algorithm using pseudocode

Preparation

- Print copies of the TemperatureAction FRQ handout (one for each student)
- Print copies of the Java Quick Reference resource (one for each student)
- Print copies of the TemperatureAction FRQ Scoring Guidelines (one for each student)
- Check the **Teacher's Lounge** for verified teachers on the CSA Forum to find additional strategies or resources shared by fellow teachers

Links

Heads Up! Please make a copy of any documents you plan to share with students.

For the students


- **Java Quick Reference** - Resource
- **TemperatureAction FRQ** - Handout
- **TemperatureAction FRQ Scoring Guidelines** - Handout

Warm Up (5 minutes)

Breathing Exercise


Remarks

Today, you will complete another FRQ independently. Let's get ready for doing a quick breathing exercise first to help us relax and set aside any distractions or negativity so we can focus on doing our best work.

 **Do This:** Have students participate in one of the breathing exercises.


Remarks

Now that we're ready for this FRQ, let's review the strategies we have practiced for approaching these questions.

 **Do This:** Click through the animated slide to review the strategies for approaching FRQs.

Activity (35 minutes)

Writing (25 minutes)

 **Distribute:** Give each student a copy of the TemperatureAction FRQ handout and Java Quick Reference.

Remarks


You now have 25 minutes to develop your response to the Free Response Question. Remember to use the strategies we have practiced!

 **Do This:** Have students complete the Free Response Question.

Scoring and Review (10 minutes)

 **Distribute:** Give each student a copy of the TemperatureAction FRQ Scoring Guidelines.



Group: Place students in groups of two.

 **Do This:** Have students compare their solutions with their partners and assess their work using the TemperatureAction FRQ Scoring Guidelines.

Remarks

Congratulations on completing another FRQ! As with any problems we solve in Java, there are multiple approaches to solving an FRQ. Let's look at one solution to today's FRQ.

Do This: Discuss possible solutions to the FRQ. For each solution, walk through each row of the FRQ Scoring Guide and point out how the solution met those requirements.


-  Implementation of the `addTemperatureAction()` method (Part (a))
-  Implementation of the `removeTemperatureAction()` method (Part (b))

Wrap Up (5 minutes)

Give One, Get One

Distribute: Give each student one sticky note or scrap piece of paper.

 **Do This:** Have students respond to the prompt on their sticky note or scrap piece of paper.

 **Do This:** Play the music clip to cue the Give One, Get One activity and direct students to participate in a Give One, Get One.

Assessment (Optional)

TemperatureAction FRQ: The TemperatureAction FRQ handout can be used as an optional formative assessment.



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