

## AP Java HW

Consider the following description of two classes.

The `Gizmo` class represents gadgets that people purchase. Some `Gizmo` objects are electronic and others are not. A partial class definition is provided in the “Gizmo only” folder in the textbook along with a starter file. Using the psvm and the provided output (a comment in the “Gizmo only” starter file) complete the `Gizmo` class.

The `OnlinePurchaserManager` class manages a sequence of `Gizmo` objects that an individual has purchased from an online vendor. A partial class definition is provided in the “Complete code” folder in the textbook along with its corresponding starter file.

Complete the entire `OnlinePurchaserManager` class. The output for the psvm is provided as a comment in the starter file. Two of the `OnlinePurchaserManager` methods deserve extra attention.

The `countElectronicsByMaker` method examines the `ArrayList` instance variable **purchases** to determine how many `Gizmo` objects purchased are electronic and are manufactured by maker. Assume that the `OnlinePurchaserManager` object `opm` has been declared and initialized so that the `ArrayList purchases` contains `Gizmo` objects as represented in the following table.

Index in purchases	0	1	2	3	4	5
Value returned by method call <code>isElectronic()</code>	true	false	true	false	true	false
Value returned by method call <code>getMaker()</code>	"ABC"	"ABC"	"XYZ"	"lmnop"	"ABC"	"ABC"

The following table shows the value returned by some calls to `countElectronicsByMaker`.

Method Call	Return Value
<code>opm.countElectronicsByMaker("ABC")</code>	2
<code>opm.countElectronicsByMaker("lmnop")</code>	0
<code>opm.countElectronicsByMaker("XYZ")</code>	1
<code>opm.countElectronicsByMaker("QRP")</code>	0

The `OnlinePurchaseManager` method `hasAdjacentEqualPair` detects whether two adjacent Gizmo objects in **purchases** are equivalent, using the `equals` method of the Gizmo class. If an adjacent equivalent pair is found, the `hasAdjacentEqualPair` method returns `true`. If no such pair is found, or if **purchases** has fewer than two elements, the method returns `false`.

Submit a screenshot of your output for the provided `OnlinePurchaseManager` psvm and `Gizmo.java` and `OnlinePurchaseManager.java`.