

ArrayList Homework Answers
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 AP Computer Science A

1. Trace through the following code and determine the state of the ArrayList after the last line. Also, report any error conditions that are encountered

```
ArrayList<String> shoppingCart = new ArrayList<String>();
String box = "Wheaties";
shoppingCart.add(box);
shoppingCart.add("bananas");
shoppingCart.add("crackers");
String jar = "Ragu";
shoppingCart.set(1, jar);
String snack = "Fritos";
shoppingCart.add(2, snack);
shoppingCart.remove(0);
String dairy = "milk";
shoppingCart.set(1, dairy);
```

?	?	?	?
Wheaties	bananas	crackers	?
Wheaties	Ragu	crackers	?
Wheaties	Ragu	Fritos	crackers
Ragu	Fritos	crackers	?
Ragu	milk	crackers	?

2) For this ArrayList, which of the following lines of code would cause an error?

```
ArrayList<String> list = new ArrayList<String>();
list.add("a");
list.add("b");
list.add("c");
```

- a) list.add(-1, "d")
- e) list.set(-1, "d")
- i) list.remove(-1)

- b) list.add(0, "d");
- f) list.set(0, "d");
- j) list.remove(0);

- c) list.add(2, "d");
- g) list.set(2, "d");
- k) list.remove(2);

- d) list.add(3, "d");
- h) list.set(3, "d");
- l) list.remove(3);

3) TRICKY - the code below attempts to remove all the a's, but only succeeds to remove the first... why?

```
ArrayList<String> list = new ArrayList<String>();
list.add("a");
list.add("a");
list.add("b");

for(int i = 0; i < list.size(); i++)
  if(list.get(i).equals("a"))
    list.remove(i);
```

before loop:

a	a	b
a	a	b
a	b	

i = 0

i = 1