

AP® COMPUTER SCIENCE A 2016 SCORING GUIDELINES

Question 1: Random String Chooser

Part (a)	RandomStringChooser	7 points
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Intent: Define implementation of class to choose a random string

- +1** Uses correct class, constructor, and method headers
- +1** Declares appropriate `private` instance variable(s)
- +1** Initializes all instance variable(s) (*point lost if parameter not used in any initialization*)
- +4** Implements `getNext`
 - +1** Generates a random number in the proper range (*point lost for improper or missing cast*)
 - +1** Chooses a string from instance variable using generated random number
 - +1** Updates state appropriately (*point lost if constructor parameter is altered*)
 - +1** Returns chosen string or "NONE" as appropriate

Part (b)	RandomLetterChooser	2 points
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Intent: Define implementation of a constructor of a class that extends `RandomStringChooser`

- +1** `getSingleLetters(str)`
- +1** `super(getSingleLetters(str));` (*point lost if not first statement in constructor*)

AP® COMPUTER SCIENCE A 2016 CANONICAL SOLUTIONS

Question 1: Random String Chooser

Part (a):

```
public class RandomStringChooser
{
    private List<String> words;

    public RandomStringChooser(String[] wordArray)
    {
        words = new ArrayList<String>();

        for (String singleWord : wordArray)
        {
            words.add(singleWord);
        }
    }

    public String getNext()
    {
        if (words.size() > 0)
        {
            return words.remove((int) (Math.random() * words.size()));
        }
        return "NONE";
    }
}
```

Part (b):

```
public RandomLetterChooser(String str)
{
    super(getSingleLetters(str));
}
```