

AP COMPUTER SCIENCE A – JUMBLE PROGRAM

Consider the “Jumble” puzzle shown below.

Jumble

Unscramble the four Jumbles, one letter per square, to form four words. Then arrange the circled letters to form the surprise answer, as suggested by this cartoon.

OFROL

CARSF

DOYBON

SPOGIS

Check out the new, free JUST JUMBLE app

Answer here

○

○

○

○

○

○

,

○

○

○

○

○

○

Tuesday's answers

Jumbles: NAVAL GUESS DEVOUR KETTLE

Answer: The lemonade seller wanted her business
to — STAND OUT

By David L. Hoyt and Jeff Knurek. © 2018 Tribune Content Agency, LLC.
All rights reserved.

To un-jumble a jumbled word, one needs to look at the distinguishable permutations of the jumbled word. For example, for the jumbled word of length 5 “ofrol”, there will be ${}_5P_5 = 5! = 120$ permutations, but half of them will be indistinguishable, since the two o’s can be interchanged, thus leaving $120 \div 2 = 60$ distinguishable permutations. The un-jumbled word will be one of these 60 distinguishable permutations. Using these distinguishable permutations and the dictionary file `dictionary.txt` (which contains a list of five- and six-letter words), one may find the un-jumbled word.

The goal of this class work assignment is to write a program `Unjumble.java`, which outputs the unjumbled word. The class `Unjumble.java` will be used as-is. Make a class `Jumble.java` starting from the file `JumbleStub.java`. In particular, follow the instructions in the comments in the constructor in file `JumbleStub.java` to complete the class `Jumble`.

For example, for the jumbled word “ofrol”, the output of the program should look like:

```
jumbled word = ? ofrol
```

```
Number of distinguishable permutations = 60
```

```
Dejumbled:  
floor
```

where the bold-face print is user input.

AP COMPUTER SCIENCE A – JUMBLE PROGRAM

Finally, run the program with the remaining jumbled words “carsf”, “doybon” and “spogis” and complete the **Answer here** portion of the puzzle. Show me the completed puzzle.