

2011 Solutions

(C) The War of the Dots (1/3)

C1.

We can first note that the leftmost letters in the New York Point words are all unique, and occur nowhere else in the problem. Meanwhile the rightmost letters show a limited number of letters which can occur anywhere. From this, we can conclude that the leftmost letters are the “distinct series of capital letters” mentioned in the problem description.

From here, a number of observations can quickly lead to a solution. For example, realizing that lowercase “a” is the most common letter in these names, and very common as the second letter, and realizing that “•” is equally common and occurs equally often as the second letter, lets us know that this symbol equals “a”. From this we can know that (b) is Elena, which gives us the very useful letters “l”, “e”, and “n”, and so on.

In solving, we also discover some interesting properties of the system.

- “sh” and “th” are represented by single letters.
- “e” is represented by a single dot, and in general more-frequent letters really do take up less space than infrequent ones.
- Capital letters are always four columns long and are formed by appending dots to the lowercase letter until it is four columns long, according to the following pattern.
 - If the last column of the lowercase letter has a dot in the upper row, add the extra dots to the lower row.
 - If the last column of the lowercase letter has a dot in the lower row, add the extra dots to the upper row.
 - If the last column of the lowercase letter has a dot in both rows, add the extra dots to the upper row.

In other words, fill up the opposite row from the last dot (defaulting to the top row when both are filled).

This system of capitalization is one of the few ways Walt could have created a capital series so that the capitals are predictable, but never lead to ambiguity. Adding just one dot or two dots would lead to ambiguity, because a capital could be mistaken for a lowercase letter. (For example, if you only added one dot, “E” would be identical to “s”.) So you have to add enough dots that each capital is longer than any lowercase letter.

Meanwhile, if you added the extra dots to the same row, as opposed to the *opposite* row, the capitals of two letters could end up being identical. For example, both “e” and “a” would add their dots to the top row, and so “E” and “A” would end up identical. (And so would “F”.)

Walt’s solution is thus a quite clever solution within the design constraints of his system. (However, it was possibly a bit too clever for its own good—the system isn’t particularly intuitive, and in practice, most people writing in NYP ignored capital letters entirely.)



(C) The War of the Dots (2/3)

Answer:

a.	••••• •• ••• .•.	K
b.	••••• •• ••• .•.	E
c.	••••• •• ••• .•.	I
d.	••••• •• ••• .•.	C
e.	••••• •• ••• .•.	J
f.	••••• •• ••• .•.	G
g.	••••• •• ••• .•.	L
h.	••••• •• ••• .•.	F
i.	••••• •• ••• .•.	H
j.	••••• •• ••• .•.	B
k.	••••• •• ••• .•.	A
l.	••••• •• ••• .•.	D

C2.

We begin by forming names for which we already have all the letters, “Billy” and “Ethan”. (The second of these tests whether you realized that “th” is one letter.)

a.	Billy	••••• •• ••• .•.
b.	Ethan	••••• •• ••• .•.

The next name, “Iggie”, requires a lowercase “g”, which is not provided in C1. If we’ve figured out the capitalization scheme, we can deduce it from “G”.



2011 Solutions

(C) The War of the Dots (3/3)

c.	Iggie	
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“Orson” is more complicated—we know neither “O” nor “o”. “o” doesn’t occur anywhere in this puzzle... except for one place: Hellen Keller mentions she keeps mistaking capital “Y” for double “o”. If we capitalize “Y”, we notice that it’s the same pattern repeated twice, and that this pattern is also not any of the letters we’ve seen. This is the “o”.

d.	Orson	
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“Sasha” involves no special tricks, except that we need to know that “sh” is one letter and how to capitalize “s”.

e.	Sasha	
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“Tim”, on the other hand, requires a very thorough understanding of the system (as well as a willingness to look for clues in unusual places). That chart on the first page wasn’t there just to take up space—it also gives you enough information to deduce “T” and “m”. Knowing the numbers of dots in the letters we’ve deduced already, and the total numbers of dots in these names, we can eventually calculate that “t” must contain 1 dot and “m” must contain 3 dots but only be 2 columns wide. There are only two remaining dot patterns that fit these criteria, so they are “t” and “m”. (But remember to capitalize that “T”!)

f.	Tim	
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Grading:

C1: 15/38 points per correct answer.

C2: 15/38 points per letter correct and in the correct box.

Total: 15 points

