

Ismail Youssou

Professor Zamora

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Assignment 0: Responses

- 1) I would describe left and right to the alien as “the indication of position or direction perpendicular to the indicated field of view as the center of the field of view is 0° .”
“Right” is anything less than 0° relative to the indicated position or field of view, and
“Left” is anything greater than 0° .
- 2) I would mark off a relatively large area of a dense metropolitan area on a map and count all of the gas stations within that area. This would be considered my large city gas station sample size. I would then divide that area by the total area of the city, and multiply the large city sample size by the result. This would be my large city gas station approximation. I would repeat this process for towns and rural areas, and create a town gas station approximation and a rural gas station approximation. I would then pull out a map of whichever place I’m examining (in this case, a map of the United States), count the number of cities, towns, and rural areas, and multiply them by their respective approximations to achieve, with relative accuracy, the amount of gas stations within the population (if allowed a *generous* standard deviation of 1,000 gas stations).
- 3) By picking the fruit out of the mixed basket, one can, with certainty, deduce which fruit is in what basket due to the knowledge that every basket is mislabeled. Since the labels are *all* misplaced, one knows for certain that the basket labeled mixed will consist

entirely of either apples or oranges. Let's say that the fruit picked out of the "mixed" basket is an orange. Now we know that the "mixed" basket is really the orange basket, leaving us with two baskets left. Since we know that all of the baskets are mislabeled, you can safely swap the mixed basket label with the orange basket label, and then swap the mixed and apple label to achieve the correct identification of the contents of the baskets.

- 4) I would tell Dylan to go first and place his coin directly at the center of the table. From then on, simply place his coins directly mirror to Austin's placement. Because the table is symmetric, by placing the coin opposite of that of Austin's, Dylan is guaranteed to have a place to put his coin. And because Dylan has taken the only non-mirrorable position of the table, the center, at the start of the game, this strategy is guaranteed to secure his victory.
- 5) 341. This came as the consequence of writing down almost every multiple of 11 up until 341, dividing them by 13 to see if they had a remainder of 3, and then dividing the successful ones by 12 to see if they had a remainder of 5. 341 was the only successful one.
- 6) Computer Science can be used to automate tasks, perform simulations, and, to cut to the point, functionally replace almost every operation and task available to humans.
- 7) Conventionally, good code is code that is efficient (does its task while consuming as little resources to do so as possible), well-structured (i.e., readable, consistent), and well-commented.

8) I took a course titled “Intro to Computer Science” in which the students spent the entire year learning programming concepts via the medium of [Snap](#). We spent the last month learning the very basics of Python, up to how to write if statements. While I learned Python more recently, I spent three months interning at IAC Applications where I learned HTML, CSS, and JavaScript. So if I respond to questions using JavaScript, that would be where that experience is coming from. Unfortunately, I have forgotten a good deal of both, so if I were asked to write a function in JavaScript, I would be incredibly rusty.