

Seekex Technologies Pvt. Ltd.

**STAGE-2 ASSIGNMENT**

**Designation: Senior Software Tester**

**A**

**B**

**C**

**D**

**E**

**20 cubic inches 18 cubic inches 12 cubic inches 10 cubic inches 8 cubic inches**



* 1. **cubic inches 2 cubic inches 1 cubic inches 0.8 cubic inches 0.5 cubic inches**

# Diagram: 1

**Q:1 Design a system where inputs and the output will be as mentioned in the diagram below:**

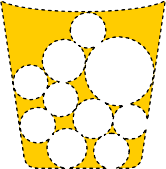
|  |  |  |
| --- | --- | --- |
| **INPUTS** | | |
| 1. Add the volume of the buckets | 2. Add the volume of the balls | 3. Input the number of each colored ball to be placed inside the buckets:  A: Pink : Ball  B: Red : Ball  C: Blue : Ball  D: Orange : Ball  E: Green : Ball |
| A : cubic inches | A: Pink : cubic inches |
| B : cubic inches | B: Red : cubic inches |
| C : cubic inches | C: Blue : cubic inches |
| D : cubic inches | D: Orange : cubic inches |
| E : cubic inches | E: Green : cubic inches |

Output (Suggestions)

Bucket A: Place 20 blue balls and 10 black balls. (Numbers of balls are just for reference) Bucket B: Place 10 yellow balls (Number if balls are just for reference)



**Empty volume = Bucket volume - Filled Volume (Volume of balls)**

**= -**



**Bucket Volume**

Diagram: 2

# Note: In the same session, every time a user requests the system to suggest buckets by inputting a quantity of balls to be placed, the empty volume of the bucket will get reduced after the suggestion of the balls placement.

In the same session, balls and buckets volume will remain the same as entered in the beginning but the empty volumes will change after every suggestion of balls placements.

# Following things are to be kept in mind while designing a system:

* + 1. Every time the suggestion is made, empty volume will be reduced by volume of the balls placed inside that bucket.
    2. After any suggestion, empty volume must not be less than zero, if no bucket satises this criteria, no suggestion will be made and message will be shown.
    3. Partial suggestions must be made by the system, if all the balls are not possible to be placed inside the buckets because of the lack of empty volume, then the maximum possible volume of the balls must be suggested to be placed.
    4. Minimum number of the baskets must be suggested at each suggestion.
    5. Wherever possible, in a single suggestion, system must utilize the single bucket to its maximum empty volume.
    6. Any ball of any color can go to any basket, all depending on the empty volume and other criteria mentioned above.

*------- End of Test -------*