

Description of Ball and Bucket Task

This assignment comprises three forms and one result screen. The three forms include the bucket form, ball form, and bucket suggestion form.

Allow me to provide an example to further illustrate the task. Let's assume there are two buckets, A and B, with capacities of 50 and 40 respectively. In your neighborhood, there is a shop that sells red and blue balls. The red ball has a size of 5 cubic inches, while the blue ball has a size of 3 cubic inches. You purchased 6 red balls and 4 blue balls, resulting in a total ball size of 42 cubic inches.

If you begin putting the balls into bucket B, you will realize that the last ball cannot fit, requiring the use of both bucket A and bucket B. This means you need to use two buckets. However, if you place all the balls in bucket A, you can store them all in a single bucket, with some space remaining in bucket A while bucket B remains empty.

Subsequently, you return to the shop and purchase 4 red balls and 3 blue balls. Bucket A already contains 42 cubic inches of balls. You will place 1 red ball and 1 blue ball in bucket A to fill it up, while the remaining balls will be stored in bucket B. This process continues until there comes a point where some of the balls you purchased cannot fit into the available buckets, indicating that you bought some extra balls from the shop. In such cases, you must return those extra balls to the shop.

This is the approach you need to implement in the program. The bucket form allows the user to create all the available buckets. The ball form helps the user create the balls available at the shop. The bucket suggestion form is where the user inputs the number of balls of each color brought from the shop. It is named "bucket suggestion" because it suggests the minimum number of buckets required to accommodate the balls.

The result screen provides an overview of all the balls in the buckets. In the event that all the buckets are filled and there are extra balls, the system will notify the user. For example: "1 Pink Ball and 2 Blue balls cannot be accommodated in any bucket since there is no available space."

To add an element of enjoyment to this assignment, you need to empty all the buckets whenever a new bucket or new ball is created.

Thank you, and happy coding.