Computer Information Science aptitude checker version 0.1

For each of the questions on the following pages you should assume that there is a Dot Store that has an unlimited number of red, green, blue and yellow dots and that there are three boxes that are initially empty but are each capable of holding a large number of dots. The boxes are labeled A, B and C.









You are to follow the steps in the following exercises as precisely as possible. You may write anywhere on this exam, however only answers should be written in the answer boxes.

All the dots are in the Dot Store. All the boxes are empty.

Exercise 1.

* Move 5 dots from the Dot Store to Box A.
* Move 3 dots from Box A to Box B.
* Record the number of dots now in Box A.

Answer: 2

Move all the dots back to the Dot Store.

Exercise 2.

* Move 6 dots from the Dot Store to Box A.
* Move 2 dots from the Dot Store to Box B.
* Move half the dots from Box A to Box C.
* Move all the dots from Box B to Box C.
* Record the number of dots now in Box C.

Answer:5

Move all dots back to the Dot Store. Then move a red dot from the Dot Store to Box A and a green dot from the Box Store to Box B.

Exercise 3.

* Move all the dots from Box A to Box C.
* Move all the dots from Box B to Box A.
* Move all the dots from Box C to Box B.
* In a single simple sentence, describe what this exercise did.

Answer: Exchange the content of box A and box B.

Move all the dots back to the Dot Store. Move 10 dots from the Dot Store to Box A. Move 4 dots from the Dot Store to Box B.

Exercise 4.

* If the number of dots in Box A is even, move a dot from the Dot Store to Box C.
* If the number of dots in Box B is odd, move a dot from the Dot Store to Box C.
* Move all the dots in Box C to Box B.
* Record the number of dots now in Box B.

Answer:5

Move all the dots back to the Dot Store. Move 3 red dots from the Dot Store to Box A. Move 2 blue dots from the Dot Store to Box A.

Exercise 5.

* For each red dot in Box A, move a yellow dot from the Dot Store to Box B
* For each blue dot in Box A, move three green dots from the Dot Store to Box B
* Record the number of dots now in Box B.

Answer:9

This time don’t move any dots back to the Dot Store.

Exercise 6.

Collect all the non-green dots from the boxes and place them in Box C

* Record the number of dots now in Box A.

Answer:0

* Record the number of dots now in Box B.

Answer:6

* Record the number of dots now in Box C.

Answer:8

Move all the dots back to the Dot Store. Move 3 red dots from the Dot Store to Box A. Move 5 green dots from the Dot Store to Box B.

Exercise 7.

* If Box A has more dots than Box B, move a yellow dot from the Dot Store to Box C
* For each dot in Box A, move a dot from Box B to Box C.
* If Box C has more dots than Box A, move all the dots from Box C to Box A.
* Record the number of dots now in Box A.

Answer:3

* Record the number of dots now in Box B.

Answer:2

Move all the dots back to the Dot Store. Move 4 blue dots from the Dot Store to Box A.

Exercise 8.

* Repeat the following process until Box A is empty.

1. Remove one blue dot from Box A.
2. Move 2 yellow dots from the Dot Store to Box B.

* Record the number of dots now in Box A.

Answer:0

* Record the number of dots now in Box B.

Answer:8