Jatin Gupte.   Company - Mindstix

Puzzles

1) If doctor gives 4 tablets which contains 2 for fever and 2 for cold. All 4 have same size, colour, shape, with no packet.

If all four gets mixed, & you have to take one tablet of each type. to what will you do?

2) There are three boxes, one contains only oranges, one contains only apples and one contains both oranges & apples. The boxes have been incorrectly labeled such that no label identifies the actual contents of the box it labels. Opening just one box, and without looking in the box, you take out one piece of fruit. By looking at the fruit, how can you immediately label all of the boxes correctly?

| Apples | Oranges | Mixed |

1) void print(char ch)

Pass accept a character in this function, & print Alternate characters starting from ch:
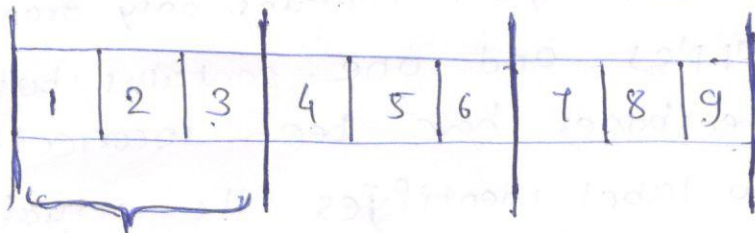
if you pass 'm' it should print:

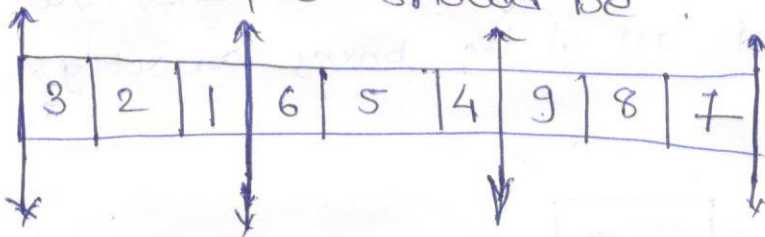m O Q S U W Y A C E G I K

if you pass 'N'

N P R T V X Z B D F H J L

2) void (int [] arr, int chunk)

divide arr into blocks of size chunk.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

chunk size = 3

Now reverse the elements in Each block so output should be

| 3 | 2 | 1 | 6 | 5 | 4 | 9 | 8 | 7 |

3) write a function void Reverse(int [] a, startInd, endInd)

Reverse array using this function.
eg. if a[1,2,3,4,5,6], startInd = 1, endInd = 4.

ouput should be [1,5,4,3,2,6]

leftShift

Now write function(int [] arr, shift)
if shift = 2, left shift array for two time.

You have to use above function Reverse.
to left shift given array.

Mindstix

1) Draw pattern using 1 for loop
   → use recursive function

2) Sorted Array is given. find out number of divisor for each index & replace that number by the count

   eg.

   | 5 | 10 | 15 | 20 | 25 |

   ↓

   Count = 5

   → | 5 | 10 | 15 | 20 | (5) |

3) Cap.   A→ B→ C→ D→

   Cap color   B, O, Y, —
   → find out which two has the same color of cap.
   Answer C & D.

4) Compression Algorithm (for given Array).

① mergesort (int *a, int *b , int *c)

a | 1 | 3 | 5 | b | 2 | 4 | 6 | 8 |

C | 1 | 2 | 3 | 4 | 5 | 6 | 8 |

here only one loop & no
extra array.

② I/p → | PLEASE | | TALK | | IN | | ENGLISH |

```
X***********
*     PLEASE   X
*        TALK.  *
*          IN  *
*  ENGLISH  X
*xxxx*****
```

Q3) $(x+y) * (x-y) + (x \neq (x+y))$

check validation of expression
e.g for brackets and for $x+y--$, $--x+y$

MindStix

1) Draw pattern using & for loop
   → use recursive function

2) Sorted array is given. find out number of divisor for each index & replace that number by the count

   eg.

   | 5 | 10 | 15 | 20 | 25 |

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   → | 5 | 10 | 15 | 20 | ⑤ |

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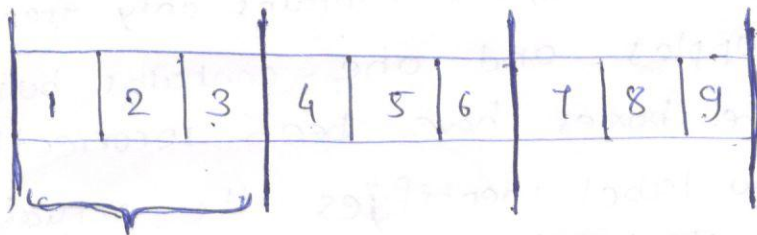
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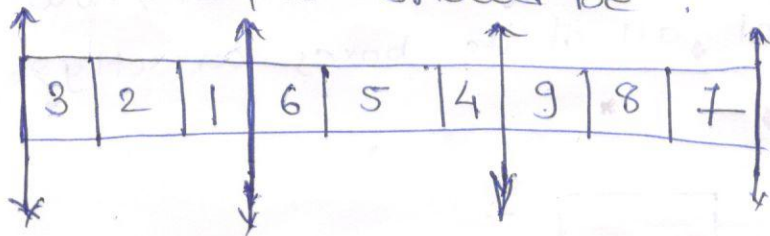
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