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Find the largest multiple of 2, 3 and 5

An array of size n is given. The array contains digits from 0 to 9. Generate the largest number using the digits in the array such that the number is divisible by 2, 3 and 5.
For example, if the arrays is {1, 8, 7, 6, 0}, output must be: 8760. And if the arrays is {7, 7, 7, 6}, output must be: "no number can be formed".

Source: Amazon Interview | Set 7

This problem is a variation of "Find the largest multiple of 3".

Since the number has to be divisible by 2 and 5, it has to have last digit as 0. So if the given array doesn't contain any zero, then no solution exists.

Once a 0 is available, extract 0 from the given array. Only thing left is, the number should be is divisible by 3 and the largest of all. Which has been discussed here.

Thanks to shashank for suggesting this solution. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above.
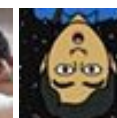
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Vivek   ·   18 days ago

Sorry That is a mistake on my part. please ignore

ᐱ | ᐯ   ·

Rajat   ·   8 months ago

```
import java.util.*;
class max
{
static ArrayList ll;
static void perm1(int []a,int k,int n,int m)
{
if(k==m)
{
String s="";
for(int i=0;i<m;i++) s="s+a[i];" long="" q="Long.parseLong(s);"
if(q%2="=0&amp;&amp;q%3==0&amp;&amp;q%5==0)" ll.add(q);="" }="" else
int="" t="a[k];" a[k]="a[j];" a[j]="t;" perm1(a,k+1,n,m);="" t="a[k];" a[k]="a[j];" a[j]=
void="" main(string[]="" args)="" {="" ll="new" arraylist();="" int="" []a="new" int
a[3]="6;" a[4]="0;" for(int="" i="1;i&lt;6;i++)" {="" perm1(a,0,5,i);="" }="" system
}="" }="">
```
∧ | ∨ ·

pankaj · a year ago

the best way to do this is by sorting the array in descending order with zero in
elements if not divisible by 3 then eleminating the n-1th element in array

∧ | ∨ ·

Sambasiva · a year ago

Here is the simpler implementation of algorithm 2

http://effprog.blogspot.in/201...

1 ∧ | ∨ ·

trial ➔ Sambasiva · 18 days ago

Currently the link above doesn't exist..

Lokesh → Sambasiva · a year ago

Thanks :)

kanhaiya · a year ago

I think the answer of the first example should be 8760 NOT 8160?

Kartik → kanhaiya · a year ago

Thanks for pointing this out. We have corrected the example.

Vivek → Kartik · 18 days ago

The output is 87610.

Vivek → Vivek · 18 days ago

Thats a mistake and please ignore

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