

Make up Midterm

20% towards the midterm; 6 points

Due: October 21st, 2022 -- 11:59 pm (PT)

What to submit: A single .java file on the iLearn assignment page. The .java file will contain:

- a) The main method
- b) All the methods that will implement your answers
 - i. Make sure that you name your methods as shown in the examples
 - ii. Ideally, there should be only 1 method per question

Q1) Write a method that will take in an array of integers and return whether it is full or not. An array is considered full if there are no empty slots. Empty slots will have a value of 0.

Examples:

```
isArrayFull({2, 3, 4, 5, 6}) -> true
isArrayFull({1, 1, 4, 5, 6, 0, 0, 0, 0}) -> false
isArrayFull({1, 0, 4, 5, 6}) -> false
```

Pay attention to the method signature (including, return type and parameter(s)). [1 points]

Q2) Write a method that will take in an array of integers and return **true** if the array contains a 2 next to a 4 somewhere.

Examples:

```
universe42({2, 3, 4, 2, 6}) -> true
universe42({1, 4, 6, 2, 4}) -> false
universe42({1, 4, 2, 1, 4, 2}) -> true
```

Pay attention to the method signature (including, return type and parameter(s)). [2 points]

Q3) Write a method that will take in an array of integers and return **true** if the array contains a 2 next to a 4 or a 4 next to a 2, but not both.

Examples:

```
both242({2, 3, 4, 2, 6}) -> true
both242({2, 4, 6, 2, 1}) -> true
both242({2, 4, 2, 1, 4, 1}) -> true
both242({2, 4, 2, 1, 4, 2}) -> false // 2-4 and 4-2 both
both242({2, 4, 3, 1, 2, 4}) -> true //only 2-4 repeat
both242({2, 4, 2}) -> true //4 is shared with both 2-4 and 4-2
```

Pay attention to the method signature (including, return type and parameter(s)). [3 points]