PW SKILLS

JAVA
Recursion 2

Assignment Questions

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Q1. **Print all the elements of an array in reverse order.**

Q2. **Print index of a given element in an array. If not present, print -1.**

Q3. **A function countAndSay is defined as:**

```
countAndSay(1) = “1” countAndSay(n) is the way you would
"say" the digit string from countAndSay(n-1), which is then
converted into a different digit string.
So, if sample input is n = 4,
countAndSay(1) = 1
countAndSay(2) = “one 1” ⟹ 11
countAndSay(3) = “two 1” ⟹ 21
countAndSay(4) = “one 2 one 1” ⟹ 1211
```

Q4. **Given an array of integers, print a sum triangle using recursion from it such that the first level has all array elements. After that, at each level the number of elements is one less than the previous level and elements at the level will be the sum of consecutive two elements in the previous level.**

```
So, if sample input is [5, 4, 3, 2, 1], sample output will
be:
[5, 4, 3, 2, 1]
[9, 7, 5, 3]
[16, 12, 8]
[28, 20]
[48]
```

Q5. **Write a recursive function to reverse a number. Avoid preceding 0s in the reversed number.**

Q6. **Print all the increasing sequences of length k from first n natural numbers.**

Q7. **Given two sorted arrays A and B, generate all possible arrays such that the first element is taken from A then from B then from A, and so on in increasing order till the arrays are exhausted. The generated arrays should end with an element from B.**

```
A = {10, 15, 25}
B = {1, 5, 20, 30}
Output: {10 20}, {10 20 25 30}, {10 30}, {15 20}, {15 20 25
30}, {15 30},
{25 30}
```

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THANK YOU !

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