CS pathshala
Bringing computational thinking to schools

Introduction:
In this worksheet, we'll be looking at exercises related to sorting and derangement
Questions: (* questions can be used for evaluation)
Puzzle 1. Sort all these numbers in ascending (i.e. increasing order)

58, 8, 32, 99, 16, 7, 12

Write your answer below:

Puzzle 2. You are given a table of countries and their areas. Arrange the countries from the largest to the smallest.

Country	Canada	Iran	China	Mexico	Australia	Argentina	India
Area	9,984,670	1,648,000	9,572,900	1,964,375	7,692,024	2,780,400	3,287,263

Write your answer in the table below:

Country							
Area							

Puzzle 3. Here is a sorted sequence of colours in the rainbow. Below that you are given a few sequences. Tick the ones that are 'derangements'.
Sorted Sequence: VIOLET, BLUE, YELLOW, ORANGE, RED
Sequence 1: BLUE, YELLOW, VIOLET, RED, ORANGE
Sequence 2: YELLOW, VIOLET, ORANGE, RED, BLUE
Sequence 3: VIOLET, YELLOW, RED, ORANGE, BLUE

Name: **Class:**   **Div:**   **Roll. No:**

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Puzzle 4. Here is a simple sequence of 3 numbers. Rearrange them
in all possible sequences and point out which ones are derangements.
Sorted Sequence: 10, 20, 30
Write your answer below:

Puzzle 5. There are 3 envelopes, each containing a letter. In how many ways can you put
these letters in these envelopes such that no letter goes in its own envelope?
Write your answer below:

Puzzle 6. You have 4 envelopes, each containing one postcard. In how many ways can
you put 4 letters in 4 envelopes such that exactly one letter goes in its own envelope?
(This means that in such arrangements, the remaining 3 letters are in 3 wrong envelopes)
Write your answer below:

Name: **Class:**   **Div:**   **Roll. No:**

Puzzle 7 For a dancing competition, a class has to send 1 boy and 1 girl each from the same class. There are 3 separate classes, so there are 3 boys and 3 girls in all. In how many ways can you form a dancing couple from 3 boys and 3 girls so that no two classmates dance with each other?

Write your answer below: