Python Practice

Problem 1

[Repetitions in an array] Write a program that declares an integer array `arr` of size n. It first takes in a positive integer n from the user. Then reads n numbers and stores them in `arr`. It checks and prints the number of repetitions in `arr`. The result is the sum of the total number of repetitions in the array.

- For input array: (4, 3, 4, 5, 10, 12), it prints 2.
- For input array: (4, 3, 4, 4, 3, 4, 5), it prints 6 (which is 4 repetitions of 4 + 2 repetitions of 3).
- Input: <Int>
  <space separated ints>
- Output: <Int>

Problem 2 (Floating Point Representation)

Class (OOP)

Decimal to Floating point Representation

- Sign bit
- Exponent
- Mantissa
- Print (combining all)

Same for Floating-point to Decimal

Problem 3 (Crazy Output of Array 1)

- First, choose the middle element of the array (for the array of even length it will be leftmost of two middle elements) and print it. Then print in the same way the part of the array at the right side of the selected element, repeat the same, if right part is empty, go for left and repeat the above procedure.
- Input: n (size of the array), followed by array elements.
- Output: Print array as described
- Sample 1:

INPUT	OUTPUT
7 4 7 10 7 5 5 1	7 5 1 7 10 5 4
6 8 7 2 5 9 8	2 9 8 5 8 7

Problem 4 (Crazy Output of Array 2)

- First, choose the middle element of the array (for the array of even length it will be leftmost of two middle elements) and print it. Then print in the same way the part of the array at the right side of the selected element, then print in the same way the part at the left side (if those parts are not empty) and so on.

- Input: n (size of the array), followed by array elements.
- Output: Print array as described
- Sample 1:

INPUT	OUTPUT
7 4 7 10 7 5 5 1	7 5 1 5 7 10 4
6 8 7 2 5 9 8	2 9 8 7 5 8