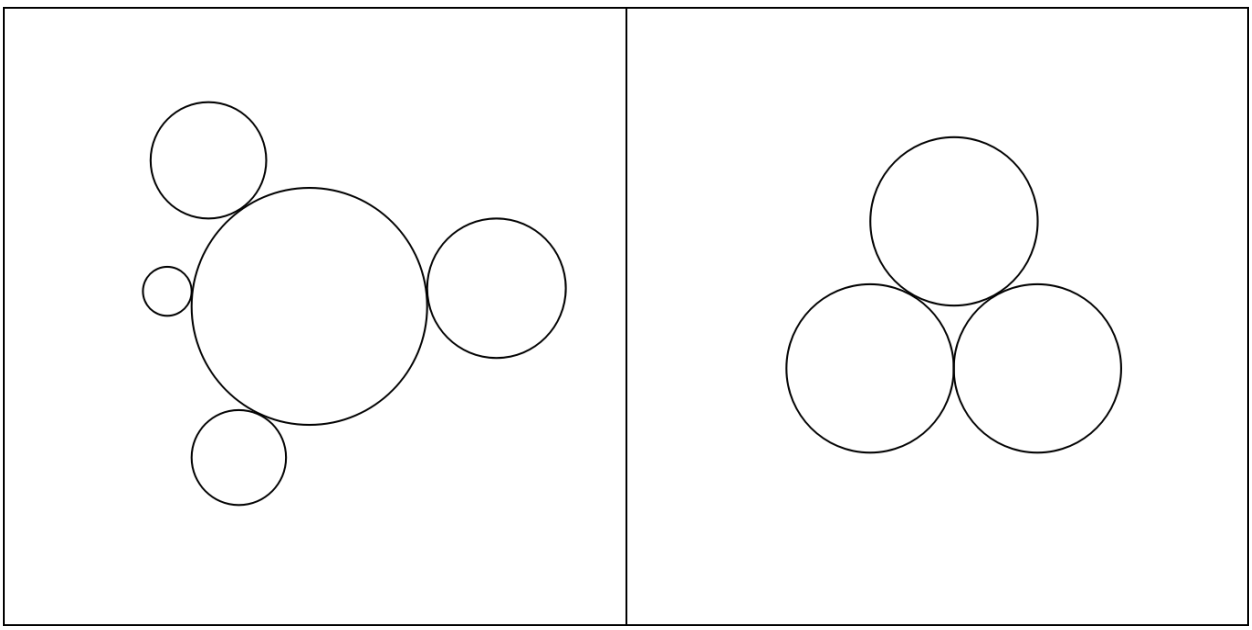
Circle Packing

Given

- A rectangle with arbitrary dimensions (L,W), and
- k circles with a series of arbitrary radius ($\{R_i, i = 1, 2, 3...\}$)

Please implement a program to find out a layout which is able to satisfy the following conditions:

1. All circles must stay inside the rectangle and cannot overlap with each other (boundary touching is allowed);
2. The spatial utilization ($u = \sum_{i<=k} \pi R_i^2 / (LW)$) should be as high as possible;
3. [**desirable feature for bonus score**] The program has the capability to give a central-symmetry-like solution, see the following examples;



4. [**desirable feature for bonus score**] A greedy-based search algorithm is **NOT** recommended.

Requirements

The candidate can choose any programming language to finish this task.

The program has to provide:

- An interface to assign L,W and $\{R_i, i = 1, 2, 3...\}$;
- A graphical print of the calculated result;

We will not admit late submissions unless the candidate send workable code **within two days of the deadline**.