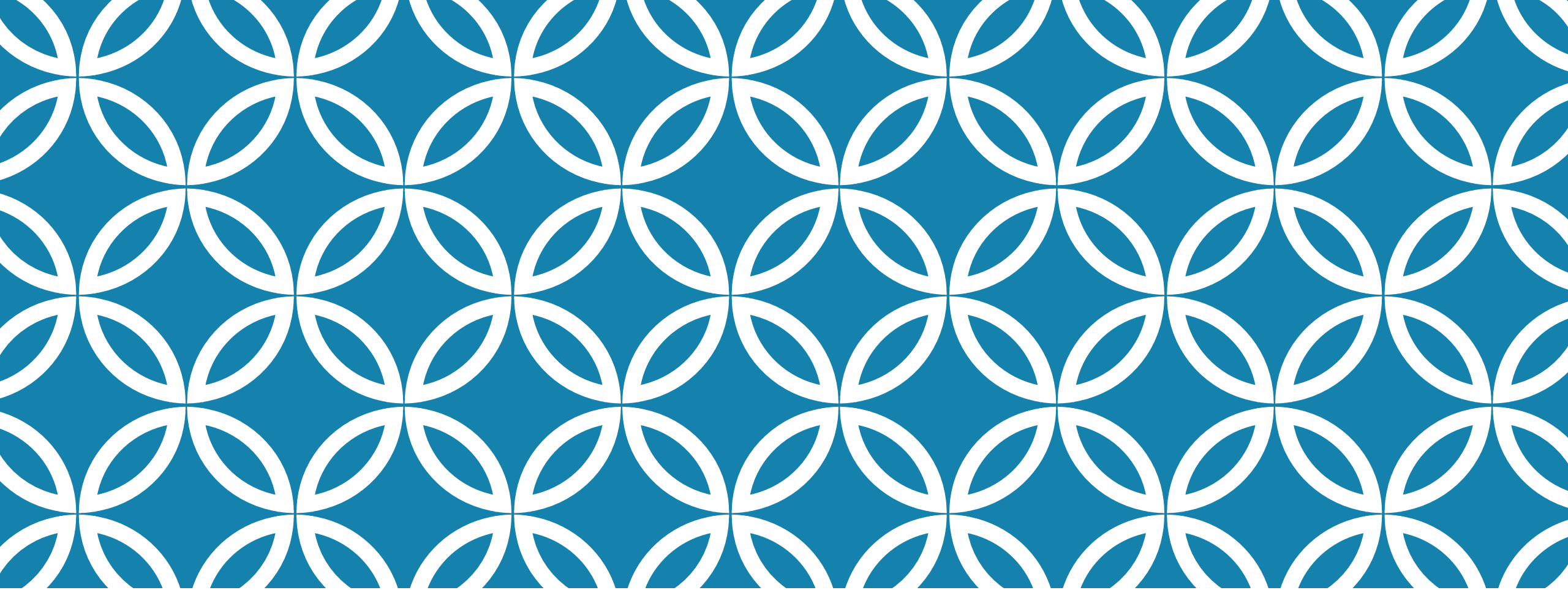

PROBLEMS FOR 07 MAY 2020

CIR
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JOB SEQUENCING PROBLEM

Given an array of jobs where every job has an integer deadline and an associated profit if the job is finished before the deadline.

It is also given that every job takes single unit of time, so the minimum possible deadline for any job is 1.

How to maximize total profit if only one job can be scheduled at a time.

POLYNOMIAL PRODUCT

Given two arrays of integer polynomial coefficients, find the array representing their product.

Example:

A = {1, 2} represents 1+2x

B = {1, 0, 1} represents 1+0x+1x^2.

Their product is 1+2x+1x^2+2X^3, i.e. {1, 2, 1, 2}.

PALINDROME PARTITIONING

Given a string containing uppercase English letters, find the minimum number of parts such that each part is a palindrome.

K-TH ELEMENT OF TWO SORTED ARRAYS

Given two sorted arrays of size m and n respectively, you are tasked with finding the element that would be at the k’th position of the final sorted array.

MAXIMUM SQUARE SUB-MATRIX OF A GIVEN SIZE

Given a matrix of real numbers, and an integer $k > 0$. find the $k * k$ sub-matrix with largest sum.